ADEM
Alabama Department of Environmental Management

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM INDIVIDUAL PERMIT

PERMITTEE: ARP Production Company, LLC
1000 Commerce Driver, 4th Floor
Pittsburgh, PA 15275

FACILITY LOCATION: Short Creek Coalbed Methane Project
Birmingport Road
Sylvan Springs, AL 35118
Jefferson County

T16S, R5W, Sections 35, 36
T17S, R4W, Sections 6, 7, 18, 19
T17S, R5W, Sections 1 – 36
T17S, R6W, Sections 1, 10 – 36
T17S, R7W, Sections 23 – 26, 35, 36
T18S, R5W, Sections 2 – 11, 18, 19
T18S, R6W, Sections 1, 3, 7, 12, 13, 24
T18S, R7W, Sections 1, 2

PERMIT NUMBER: AL0077429

DSN & RECEIVING STREAM: 001-1 Valley Creek
002-1 Locust Fork of Black Warrior River

In accordance with and subject to the provisions of the Federal Water Pollution Control Act, as amended, 33 U.S.C. §§1251-1378 (the "FWPCA"), the Alabama Water Pollution Control Act, as amended, ***Code of Alabama 1975****, §§ 22-22-1 to 22-22-14 (the "AWPCA"), the Alabama Environmental Management Act, as amended,* ***Code of Alabama 1975****, §§22-22A-1 to 22-22A-16, and rules and regulations adopted thereunder, and subject further to the terms and conditions set forth in this Permit, the Permittee is hereby authorized to discharge into the above-named receiving waters.*

ISSUANCE DATE:

EFFECTIVE DATE:

EXPIRATION DATE:

****DRAFT****

Alabama Department of Environmental Management

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT

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PART I DISCHARGE LIMITATIONS, CONDITIONS, AND REQUIREMENTS

A. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS

Produced and/or Process Wastewater Discharge Limitations and Monitoring Requirements

During the period beginning on the effective date of this Permit and lasting through the expiration date of this Permit, the Permittee is authorized to discharge from each point source identified on Page 1 of this Permit and described more fully in the Permittee's application, if the outfalls have been constructed and certified. Discharges shall be limited and monitored by the Permittee as specified below:

1. Outfall 001-1

Parameter	Discharge Limitations			Monitoring Requirements	
	Daily Minimum	Monthly Average	Daily Maximum	Sample Type	Measurement Frequency[1]
pH 00400	6.0 s.u.	-------	9.0 s.u.	Grab	2/Month
Oil & Grease 00556	-------	-------	15.0 mg/L	Grab	2/Month
Chloride, Dissolved in Water 00941	-------	Report mg/L	Report mg/L	Grab	2/Month
Iron, Total (As Fe) 01045	-------	3.0 mg/L	6.0 mg/L	Grab	1/Month
Manganese, Total (As Mn) 01055	-------	2.0 mg/L	4.0 mg/L	Grab	1/Month
Flow, In Conduit or Thru Treatment Plant[2] 50050	-------	Report MGD	Report MGD	Totalizer	1/Day
Toxicity, Ceriodaphnia Chronic[3] 61425	-------	-------	0 pass(0)/fail(1)	24 hour Composite	1/Quarter[4]
Toxicity, Pimephales Chronic[3] 61427	-------	-------	0 pass(0)/fail(1)	24 hour Composite	1/Quarter[4]

[1] See Part I.F.2. for further measurement frequency requirements.
[2] Flow must be determined at the time of sample collection by direct measurement, calculation, or other method acceptable to the Department.
[3] See Part IV.B. for Effluent Toxicity Limitations and Biomonitoring Requirements for Chronic Toxicity.
[4] See Part IV.B.2.d. regarding Effluent Toxicity monitoring frequency reduction.

2. Outfall 002-1

Parameter	Discharge Limitations			Monitoring Requirements	
	Daily Minimum	Monthly Average	Daily Maximum	Sample Type	Measurement Frequency[5]
pH 00400	6.0 s.u.	-------	9.0 s.u.	Grab	2/Month
Oil & Grease 00556	-------	-------	15.0 mg/L	Grab	2/Month
Nitrogen, Ammonia Total (As N)[6] 00610	-------	Report mg/L	Report mg/L	Grab	1/Month
Nitrogen, Kjeldahl Total (as N)[6] 00625	-------	Report mg/L	Report mg/L	Grab	1/Month
Nitrite Plus Nitrate Total 1 Det. (as N)[6] 00630	-------	Report mg/L	Report mg/L	Grab	1/Month
Phosphorus, Total (asP)[6] 00665	-------	Report mg/L	Report mg/L	Grab	1/Month
Chloride, Dissolved in Water 00941	-------	Report mg/L	Report mg/L	Grab	2/Month
Iron, Total (As Fe) 01045	-------	3.0 mg/L	6.0 mg/L	Grab	1/Month
Manganese, Total (As Mn) 01055	-------	2.0 mg/L	4.0 mg/L	Grab	1/Month
Flow, In Conduit or Thru Treatment Plant[7] 50050	-------	Report MGD	Report MGD	Totalizer	1/Day
Toxicity, Ceriodaphnia Chronic[8] 61425	-------	-------	0 pass(0)/fail(1)	24 hour Composite	1/Quarter[9]
Toxicity, Pimephales Chronic[8] 61427	-------	-------	0 pass(0)/fail(1)	24 hour Composite	1/Quarter[9]

[5] See Part I.F.2. for further measurement frequency requirements.
[6] Monitoring for Total Nitrite Plus Nitrate, Total Kjeldahl Nitrogen, Total Phosphorus, and Ammonia Total Nitrogen is not required during the months of November through March.
[7] Flow must be determined at the time of sample collection by direct measurement, calculation, or other method acceptable to the Department.
[8] See Part IV.B. for Effluent Toxicity Limitations and Biomonitoring Requirements for Chronic Toxicity.
[9] See Part IV.B.2.d. regarding Effluent Toxicity monitoring frequency reduction.

B. REQUIREMENTS TO ACTIVATE A PROPOSED OUTFALL

1. Discharge from any point source identified on Page 1 of this Permit which is a proposed outfall is not authorized by this Permit until the outfall has been constructed and certification received by the Department from a professional engineer, registered in the State of Alabama, certifying that such facility has been constructed according to good engineering practices.

2. Certification required by Part I.B.1. shall be submitted on a completed ADEM Form 433. The certification shall include the latitude and longitude of the constructed and certified outfall.

3. Discharge monitoring and Discharge Monitoring Report (DMR) reporting requirements described in Parts I.F. and I.G. of this Permit do not apply to point sources that have not been constructed and certified.

4. Upon submittal of the certification required by Part I.B.1. to the Department, all monitoring and DMR submittal requirements shall apply to the constructed and certified outfall.

C. RECEIVING STREAM MONITORING REQUIREMENTS FOR OUTFALL 002-1

During the period beginning on the effective date of this Permit and lasting through the expiration date of this Permit, the Permittee is required to monitor the receiving stream for Outfall 002-1 identified on Page 1 of this Permit and described more fully in the Permittee's application, if the outfalls has been constructed and certified. The receiving stream shall be monitored by the Permittee downstream of the discharge at the edge of the Zone of Initial Dilution (ZID) as specified below:

Parameter	Discharge Limitations			Monitoring Requirements	
	Daily Minimum	Monthly Average	Daily Maximum	Sample Type	Measurement Frequency[10]
Specific Conductance 00095	-------	Report µS/cm	Report µS/cm	Grab	1/Quarter
pH 00400	Report s.u.	-------	Report s.u.	Grab	1/Quarter
Chloride, Dissolved in Water 00941	-------	Report mg/L	Report mg/L	Grab	1/Quarter

D. STORMWATER DISCHARGE MONITORING AND INSPECTION REQUIREMENTS

1. Stormwater Discharge Monitoring Requirements

During the period beginning on the effective date of this Permit and lasting through the expiration date of this Permit, the Permittee is authorized to discharge stormwater associated with the construction and operation of the facility provided that:

a. The Permittee prepares, implements, and maintains a Spill Prevention, Control and Countermeasures (SPCC) Plan in accordance with 40 CFR 112 and Part II.A.2.d. of this Permit.

b. Best Management Practices (BMPs) be used to prevent pollution of stormwater from construction and operation of the facility. The BMPs shall, at a minimum, meet the requirements of Part II.A.2.b.

[10] See Part I.F.2. for further measurement frequency requirements.

c. Stormwater discharge(s) shall have no sheen, and there shall be no discharge of visible oil, floating solids, or visible foam in other than trace amounts.

2. Stormwater Inspection Requirements

a. Complete and comprehensive inspections of a minimum of four percent (4%) of all wellpads, pipeline right-of-ways, treatment ponds, compressor stations, other facilities and related appurtenances, etc. covered by this Permit, including all BMPs implemented, by a professional engineer, registered in the State of Alabama or personnel under his direct supervision shall be performed every month until expiration of coverage under this Permit. The Permittee shall inspect different or additional 4% increments until all facilities (100%) have been inspected prior to repeating inspections.

b. Inspections shall be performed as often as is necessary to determine if, and ensure that, appropriate BMPs have been fully implemented and properly maintained and that stormwater runoff from the facility complies with limitations pursuant to Part I.D. of this Permit.

3. Recording of Results

For each inspection taken pursuant to the requirements of Part I.D.2. of this Permit, the Permittee shall record on a Department approved form the following information:

a. The NPDES#, facility name, and location, source identifier (wellpad, compressor station, pipeline, etc.), and source location;

b. The name(s) of person(s) who performed the inspection;

c. The date and time the inspection was performed;

d. Any deficiencies noted during the inspection, any corrective action or mitigation needed to correct the deficiencies, and a proposed compliance schedule for deficiencies noted as requiring significant maintenance not to exceed 14 days, unless approved in writing by the Department.

4. Reporting of Inspection and Monitoring Requirements

a. Inspection Summary Reports (Form 343) for stormwater discharges shall be submitted to the Director or his designee:

(1) By July 28 of each year for all inspections and monitoring performed during the preceding 12 month period ending on the last day of the month of June.

(2) With any Noncompliance Notification Form submitted pursuant to Part I.G.2. of this Permit.

b. Results of all inspections and monitoring shall be summarized on an appropriate form approved by the Department, and shall be available for inspection no later than 21 days following the date of the inspection or monitoring. Reports must be legible and bear original signature(s). Photo and electronic copies of the signature are not acceptable and shall not satisfy the reporting requirements of this Permit.

E. LAND APPLICATION OF TEMPORARY PIT WASTEWATERS

1. Administrative and Reporting Requirements

a. Notwithstanding any other provisions of this Permit, one-time land application of temporary pit wastewater in conjunction with pit closure from any pit which is associated with any drilling, wellpad construction, well stimulation, collecting, land application, transport, treatment, storage, discharge, or other facility(s) and associated appurtenances for each development or production field or permitted area whose waste stream or produced water is authorized by this Permit is prohibited unless conducted or operated in accordance with all provisions of this Permit, Departmental regulations and good engineering practices.

With the exception of a one-time land application of pit wastewater in conjunction with pit closure, land application of produced water and other wastewaters generated during drilling, well stimulation, well completion, and well development is not authorized.

b. The Permittee shall prepare and submit to the Department a comprehensive, detailed operations management plan for **ONE-TIME** land application of pit wastewater in conjunction with pit closure. As a minimum, this plan must address the types of equipment utilized, application rates and procedures, and site preparation and revegetation. Application of wastewater for dust suppression or other purposes on private or public roadways, access roads, trails, or other areas must also be addressed.

c. The plan shall be prepared and certified by a professional engineer, registered in the State of Alabama.

d. The Permittee shall notify the Department at least **48 hours** prior to beginning land application. The Permittee shall re-notify the Department if land application operations are not completed within **7 days** of the initial 48 hour notification. The Permittee must report the field name, county name, wellpad number, township-range-section, nearest surface stream, and the anticipated time of application.

e. The Permittee shall complete and make available for inspection at the facility office, or at a Department-approved alternate location, the appropriate Department-approved **Land Application Certification**. The Permittee shall submit such certification(s) as required to the Department - Attn. Chief, Mining and Natural Resource Section, Water Division - within **14** days of completion of land application operations for each pit which is associated with any drilling, well stimulation, construction, collecting, transport, treatment, storage, discharge, or other facility(s) and associated appurtenances for each development or production field or permitted area whose waste stream or produced water discharge is authorized by this Permit.

(1) The certification form must be complete and correct. Forms that contain missing or incomplete responses are not acceptable. The certification must be signed by a registered professional engineer, registered in the State of Alabama, along with the registration number and stamped with the professional seal. In addition, the certification must be signed by a Responsible Corporate Official (RCO) of the level of vice-president or above with the authority to prevent and abate possible violations. The RCO may designate an employee such as a project manager with environmental experience who is familiar with the plan to sign the certification form as an agent of the RCO. The RCO must notify the ADEM in writing with the name of the designated employee.

(2) The certification shall contain at a minimum the name of the Permittee, field name, NPDES number, county, wellpad name and number, latitude and

longitude, township-range-section to the nearest 1/4 section, nearest surface receiving stream, pH (s.u.), TDS (mg/l), and the date and the name of the Department representative that was notified.

(3) In addition the certification shall contain the following statement:

"Based upon the inspections of (dates and times) _____ performed prior to and during land application of pit wastewater from the pit(s) located at the site referenced above, which I or personnel under my direct supervision (list:_____) conducted, I certify that each land application site and all application equipment was in accordance with the land application procedures plan filed with the Department, that the pumped pit wastewater did not contain visible, floating material or oil & grease, and that all application procedures and operations were conducted in accordance with the above-referenced NPDES permit and ADEM regulations.

I further certify that no unauthorized discharge to surface or ground waters has occurred as a result of these activities."

f. The Permittee shall **IMMEDIATELY** notify the Department upon learning of any possible or probable discharge to State waters resulting from land application or any other activities associated with coalbed methane operations.

2. Technical Requirements

a. Approval of a land application plan assumes that a relatively small volume of wastewater will be disposed of and, due to the small quantity involved, groundwater quality will be unaffected. Land application of pit sludge, solids or other wastes is prohibited.

b. Only wastewater having a total dissolved solids concentration (TDS) of 2,000 mg/l or less and a pH between 6.0 and 9.0 standard units may be land applied. Wastewater must be free of visible, floating solids or oil and grease. The Permittee must ensure that **ONLY** wastewater is land applied and that all solids and sediments remain in the pit. It may be necessary to filter the wastewater during land application to ensure compliance. Land application **MUST** cease immediately if at any time the applied effluent does not comply or will not comply, if application continues, with the minimum standards as stated above.

c. Wastewater must be uniformly applied over an area of sufficient expanse and at such a rate to prevent runoff of applied wastewater. Wastewater may be land applied **ONLY** to areas that wastewater has not previously been applied, unless re-application is specifically authorized in writing by the Department.

d. Application of wastewater is prohibited during rain events or when the soil is saturated or sufficiently moist as to prevent percolation of all wastewater applied.

e. Wastewater shall not be applied in such a manner that natural vegetation is discolored, killed, or otherwise adversely impacted. If the natural vegetation is adversely impacted, the Permittee shall ensure that the application area is revegetated to pre-spray conditions.

f. Wastewater shall not be applied on severe slopes, near sink holes, near natural drainage courses, near streams or other water bodies, nor in any other manner that will allow runoff of the wastewater from the application area.

g. The Permittee shall maintain a record of the results of the tests performed prior to land application to include the date the sample was collected, the name of the person

performing the analysis, method of analysis, the date that the analysis was performed, the last date on which any substance was placed in the pit, the date that the wastewater was land applied, the amount of wastewater applied, and the location of the area on which the pit wastewater was land applied. This record shall be signed by the appropriate representative of the Permittee and retained for a period of at least three years after pit closure. Land application records shall be made available on request to the Department.

h. In recognition that land application is site specific in nature the Department reserves the right to require the operator to provide additional information or implement added measures in addition to the above described minimum standards to ensure compliance with this Permit, State law, and Departmental regulations.

3. Prohibitions

Unless specifically authorized elsewhere in this Permit, Part I.E. of this Permit does not authorize the Permittee to land apply produced water from coalbed methane production operations.

F. DISCHARGE MONITORING AND RECORD KEEPING REQUIREMENTS

1. Sampling Schedule and Frequency

a. The Permittee shall collect samples of the discharge from each constructed and certified point source identified on Page 1 of this Permit and described more fully in the Permittee's application, at the frequency specified in Part I.A. Analysis of the samples shall be conducted for the parameters specified in Part I.A.

b. The Permittee may increase the frequency of sampling listed in Parts I.F.1.a; however, all sampling results must be reported to the Department and included in any calculated results submitted to the Department in accordance with this Permit.

2. Measurement Frequency

Measurement frequency requirements found in Parts I.A. and I.C. shall mean:

a. A measurement frequency of one day per week shall mean sample collection on any day of discharge which occurs every calendar week.

b. A measurement frequency of two days per month shall mean sample collection on any day of discharge which occurs every other week, but need not exceed two sample days per month, and are no less than seven days apart. However, if discharges occur only during one seven-day period in a month, then two days per month shall mean sample collection on any two days during that seven-day period.

c. A measurement frequency of one day per month shall mean sample collection on any day of discharge which occurs during each calendar month.

d. A measurement frequency of one day per quarter shall mean sample collection on any day of discharge which occurs during each calendar quarter.

e. A measurement frequency of one day per six months shall mean sample collection on any day of discharge which occurs during the period of January through June and during the period of July through December.

f. A measurement frequency of one day per year shall mean sample collection on any day of discharge which occurs during each calendar year.

3. Monitoring Schedule

The Permittee shall conduct the monitoring required by Parts I.A. and I.C. in accordance with the following schedule:

a. MONITORING REQUIRED MORE FREQUENTLY THAN MONTHLY AND MONTHLY shall be conducted during the first full month following the effective date of coverage under this Permit and every month thereafter. More frequently than monthly and monthly monitoring may be done anytime during the month, unless restricted elsewhere in this Permit, but the results should be reported on the last Discharge Monitoring Report (DMR) due for the quarter (i.e., with the March, June, September, and December DMRs).

b. QUARTERLY MONITORING shall be conducted at least once during each calendar quarter. Calendar quarters are the periods of January through March, April through June, July through September, and October through December. The Permittee shall conduct the quarterly monitoring during the first complete calendar quarter following the effective date of this Permit and is then required to monitor once during each quarter thereafter. Quarterly monitoring may be done anytime during the quarter, unless restricted elsewhere in this Permit, but the results should be reported on the last DMR due for the quarter (i.e., with the March, June, September, and December DMRs).

c. SEMIANNUAL MONITORING shall be conducted at least once during the period of January through June and at least once during the period of July through December. The Permittee shall conduct the semiannual monitoring during the first complete semiannual calendar period following the effective date of this Permit and is then required to monitor once during each semiannual period thereafter. Semiannual monitoring may be done anytime during the semiannual period, unless restricted elsewhere in this Permit, but it should be reported on the last DMR due for the month of the semiannual period (i.e., with the June and December DMRs).

d. ANNUAL MONITORING shall be conducted at least once during the period of January through December. The Permittee shall conduct the annual monitoring during the first twelve (12) month period following the effective date of this Permit and is then required to monitor once during each calendar annual period thereafter. Annual monitoring may be done anytime during the year, unless restricted elsewhere in this Permit, but it should be reported on the December DMR.

4. Sampling Location

Unless restricted elsewhere in this Permit, samples collected to comply with the monitoring requirements specified in Part I.A. shall be collected at the nearest accessible location just prior to discharge and after final treatment, or at an alternate location approved in writing by the Department.

5. Representative Sampling

Sample collection and measurement actions taken as required herein shall be representative of the volume and nature of the monitored discharge and shall be in accordance with the provisions of this Permit.

6. Test Procedures

For the purpose of reporting and compliance, Permittees shall use one of the following procedures:

a. For parameters with an EPA established Minimum Level (ML), report the measured value if the analytical result is at or above the ML and report "0" for values below the ML. Test procedures for the analysis of pollutants shall conform to 40 CFR Part 136, guidelines published pursuant to Section 304(h) of the FWPCA, 33 U.S.C. Section 1314(h), and ADEM Standard Operating Procedures. If more than one method for analysis of a substance is approved for use, a method having a minimum level lower than the permit limit shall be used. If the minimum level of all methods is higher than the permit limit, the method having the lowest minimum level shall be used and a report of less than the minimum level shall be reported as zero and will constitute compliance, however should EPA approve a method with a lower minimum level during the term of this Permit the Permittee shall use the newly approved method.

b. For pollutant parameters without an established ML, an interim ML may be utilized. The interim ML shall be calculated as 3.18 times the Method Detection Level (MDL) calculated pursuant to 40 CFR Part 136, Appendix B.

Permittees may develop an effluent matrix-specific ML, where an effluent matrix prevents attainment of the established ML. However, a matrix specific ML shall be based upon proper laboratory method and technique. Matrix-specific MLs must be approved by the Department, and may be developed by the Permittee during permit issuance, reissuance, modification, or during compliance schedule.

In either case the measured value should be reported if the analytical result is at or above the ML and "0" reported for values below the ML.

c. For parameters without an EPA established ML, interim ML, or matrix-specific ML, a report of less than the detection limit shall constitute compliance if the detection limit of all analytical methods is higher than the Permit limit using the most sensitive EPA approved method. For the purpose of calculating a monthly average, "0" shall be used for values reported less than the detection limit.

The Minimum Level utilized for procedures identified in Parts I.F.6.a. and b. shall be reported on the Permittee's DMR. When an EPA approved test procedure for analysis of a pollutant does not exist, the Director shall approve the procedure to be used.

7. Recording of Results

For each measurement or sample taken pursuant to the requirements of this Permit, the Permittee shall record the following information:

a. The facility name and location, point source number, date, time, and exact place of sampling or measurements;

b. The name(s) of person(s) who obtained the samples or measurements;

c. The dates and times the analyses were performed;

d. The name(s) of the person(s) who performed the analyses;

e. The analytical techniques or methods used including source of method and method number; and

f. The results of all required analyses.

8. Routine Inspection by Permittee

a. The Permittee shall inspect all certified point sources identified on Page 1 of this Permit and described more fully in the Permittee's application and all treatment or control facilities or systems used by the Permittee to achieve compliance with the terms and conditions of this Permit at least as often as the applicable sampling frequency specified in Part I.A. of this Permit.

b. If required by the Director, the Permittee shall maintain a written log for each point source identified on Page 1 of this Permit and described more fully in the Permittee's application in which the Permittee shall record the following information:

(1) The date and time the point source and any associated treatment or control facilities or systems were inspected by the Permittee;

(2) Whether there was a discharge from the point source at the time of inspection by the Permittee;

(3) Whether a sample of the discharge from the point source was collected at the time of inspection by the Permittee;

(4) Whether all associated treatment or control facilities or systems appeared to be in good working order and operating as efficiently as possible, and if not, a description of the problems or deficiencies; and

(5) The name and signature of the person performing the inspection of the point source and associated treatment or control facilities or systems.

9. Records Retention and Production

a. The Permittee shall retain records of all monitoring information, including all calibration and maintenance records, copies of all reports required by this Permit, and records of all data used to complete the above reports or the application for this Permit, for a period of at least three (3) years from the date of the sample collection, measurement, report, or application. This period may be extended by request of the Director at any time. If litigation or other enforcement action, under the AWPCA, AEMA, and/or the FWPCA, is ongoing which involves any of the above records, the records shall be kept until the litigation is resolved. Upon the written request of the Director, the Permittee shall provide the Director with a copy of any record required to be retained by this paragraph. Copies of these records should not be submitted unless requested.

b. All records required to be kept in accordance with Part I.F.9.a. shall be kept at the permitted facility or an alternate location approved by the Department in writing and shall be available for inspection.

10. Monitoring Equipment and Instrumentation

All equipment and instrumentation used to determine compliance with the requirements of this Permit shall be installed, maintained, and calibrated in accordance with the manufacturer's instructions or, in the absence of manufacturer's instructions, in accordance with accepted practices. The Permittee shall develop and maintain quality assurance procedures to ensure proper operation and maintenance of all equipment and instrumentation. The quality assurance procedures shall include the proper use, maintenance, and installation, when appropriate, of monitoring equipment at the plant site.

G. DISCHARGE REPORTING REQUIREMENTS

1. Requirements for Reporting of Monitoring

a. Monitoring results obtained during the previous three (3) months shall be summarized for each month on a Discharge Monitoring Report (DMR) Form approved by the Department, and submitted to the Department so that it is received by the Director no later than the 28th day of the month following the quarterly reporting period (i.e., on the 28th day of January, April, July, and October of each year).

b. If the Permittee is not already participating in the electronic environmental (E2) DMR reporting system, **the Permittee must apply for participation in the E2 DMR system within 180 days of the effective date of this Permit unless valid justification as to why they cannot participate is submitted in writing. After 180 days, hard copy DMRs may be used only with written approval from the Department or when the E2 DMR system is inoperative.** To participate in the E2 DMR system, the Permittee Participation Package may be downloaded online at https://e2.adem.alabama.gov/npdes. If the electronic environmental reporting system is down (i.e. electronic submittal of DMR data is unable to be completed due to technical problems originating with the Department's system; this could include entry/submittal issues with an entire set of DMRs or individual parameters), permittees are not relieved of their obligation to submit DMR data to the Department by the required submittal date. However, if the E2 system is down on the 28th day of the month or is down for an extended period of time as determined by the Department when a DMR is required to be submitted, the facility may submit the data in an alternate manner and format acceptable to the Department. Preapproved alternate acceptable methods include faxing, e-mailing, mailing, or hand-delivery of data such that they are received by the required reporting date. Within five calendar days of the E2 DMR system resuming operation, the Permittee shall enter the data into the E2 DMR system unless an alternate timeframe is approved by the Department. An attachment should be included with the E2 DMR submittal verifying the original submittal date (date of the fax, copy of dated e-mail, or hand-delivery stamped date). If a permittee is allowed to submit via the US Postal Service, the DMR must be legible and bear an original signature. Photo and electronic copies of the signature are not acceptable and shall not satisfy the reporting requirements of this Permit. If the Permittee, using approved analytical methods as specified in Part I.F.6. monitors any discharge from a point source identified on Page 1 of this Permit and describe more fully in the Permittee's application more frequently than required by this Permit; the results of such monitoring shall be included in the calculation and reporting of values on the DMR Form, and the increased frequency shall be indicated on the DMR Form. In the event no discharge from a point source identified on Page 1 of this Permit and described more fully in the Permittee's application occurs during a monitoring period, the Permittee shall report "No Discharge" for such period on the appropriate DMR Form.

c. Each DMR Form submitted by the Permittee to the Department in accordance with Parts I.G.1.a. and b. must be legible and bear an original or electronic signature. Photo and electronic copies of the signature are not acceptable and shall not satisfy the reporting requirements of this Permit.

d. All reports and forms required to be submitted by this Permit, the AWPCA, and the Department's rules and regulations, shall be signed by a "responsible official" of the Permittee as defined in ADEM Admin. Code r. 335-6-6-.09 or a "duly authorized representative" of such official as defined in ADEM Admin. Code r. 335-6-6-.09 and shall bear the following certification:

> "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system

designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

e. All hardcopy DMRs, reports, and forms required to be submitted by this Permit, the AWPCA, and the Department's rules and regulations, shall be addressed to:

Alabama Department of Environmental Management
Water Division, Mining and Natural Resource Section
Post Office Box 301463
Montgomery, Alabama 36130-1463

Certified and Registered Mail shall be addressed to:

Alabama Department of Environmental Management
Water Division, Mining and Natural Resource Section
1400 Coliseum Boulevard
Montgomery, Alabama 36110-2059

f. Unless authorized in writing by the Department, approved reporting forms required by this Permit or the Department are not to be altered, and if copied or reproduced, must be consistent in format and identical in content to the ADEM approved form. Unauthorized alteration, falsification, or use of incorrectly reproduced forms constitutes noncompliance with the requirements of this Permit and may significantly delay processing of any request, result in denial of the request, result in permit termination, revocation, suspension, modification, or denial of a permit renewal application, or result in other enforcement action.

g. If this Permit is a reissuance, then the Permittee shall continue to conduct monitoring and submit DMRs in accordance with the requirements of their previous permit until such time as DMRs are due as discussed in Parts I.G.1.a and b.

2. Noncompliance Notification

a. The Permittee must notify the Department if, for any reason, the Permittee's discharge:

(1) Potentially threatens human health or welfare;

(2) Potentially threatens fish or aquatic life;

(3) Causes or contributes to an exceedance of an in-stream water quality standard or causes or contributes to an exceedance of the EPA suggested chronic criteria for total chlorides of 230 mg/L at the downstream edge of the regulatory mixing zone and, when the discharge is mixed with the receiving stream by a high rate diffuser, the EPA suggested chronic criteria for total chlorides of 860 mg/L at the downstream edge of the zone of initial dilution;

(4) Does not comply with an applicable toxic pollutant effluent standard or prohibition established under Section 307(a) of the FWPCA, 33 U.S.C. §1317(a);

(5) Contains a quantity of a hazardous substance which has been determined may be harmful to the public health or welfare under Section 311(b)(4) of the FWPCA, 33 U.S.C. §1321(b)(4); or

(6) Exceeds any discharge limitation for an effluent parameter as a result of an unanticipated bypass or upset.

The Permittee shall orally or electronically report any of the above occurrences, describing the circumstances and potential effects of such discharge to the Director within 24-hours after the Permittee becomes aware of the occurrence of such discharge. In addition to the oral or electronic report, the Permittee shall submit to the Director a written report as provided in Part I.G.2.c., no later than five (5) days after becoming aware of the occurrence of such discharge.

b. If for any reason, the Permittee's discharge does not comply with any limitation of this Permit, the Permittee shall submit a written report to the Director, as provided in Part I.G.2.c. This report must be submitted with the next Discharge Monitoring Report required to be submitted by Part I.G.1. of this Permit after becoming aware of the occurrence of such noncompliance.

c. Form 401 or Form 421 must be submitted to the Director in accordance with Parts I.G.2.a. and b. The completed form must document the following information:

(1) A description of the discharge and cause of noncompliance;

(2) The period of noncompliance, including exact dates, times, and duration of the noncompliance. If not corrected by the due date of the written report, then the Permittee is to state the anticipated timeframe that is expected to transpire before the noncompliance is resolved; and

(3) A description of the steps taken and/or being taken to reduce or eliminate the noncompliance and to prevent its recurrence.

3. Modification, Reduction, Suspension, or Termination of Monitoring and/or Reporting Requirements

a. The Director may, with respect to any point source identified on Page 1 of this Permit and described more fully in the Permittee's application, authorize the Permittee to modify, reduce, suspend, or terminate the monitoring and/or reporting required by this Permit upon the submission of a written request for such modification, reduction, suspension, or termination by the Permittee, supported by sufficient data as provided in applicable sections of this Permit.

b. It remains the responsibility of the Permittee to comply with the monitoring and reporting requirements of this Permit until written authorization to modify, reduce, suspend, or terminate such monitoring and/or reporting is received by the Permittee from the Director.

H. OTHER REPORTING AND NOTIFICATION REQUIREMENTS

1. Well Drilling Notification Requirements

Notification shall be provided to the Department at least seven days prior to the commencement of the well drilling phase of construction of each well.

2. Anticipated Noncompliance

The Permittee shall give the Director written advance notice of any planned changes or other circumstances regarding a facility which may result in noncompliance with permit requirements.

3. Termination of Discharge

The Permittee shall notify the Director, in writing, when all discharges from any point source(s) identified on Page 1 of this Permit and described more fully in the Permittee's application have permanently ceased. This notification shall serve as sufficient cause for instituting procedures for termination of the Permit.

4. Updating Information

a. The Permittee shall inform the Director of any change in the Permittee's mailing address or telephone number or in the Permittee's designation of a facility contact or officer(s) having the authority and responsibility to prevent and abate violations of the AWPCA, the AEMA, the Department's rules and regulations, and the terms and conditions of this Permit, in writing, no later than ten (10) days after such change. Upon request of the Director, the Permittee shall furnish the Director with an update of any information provided in the permit application.

b. If the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information with a written explanation for the mistake and/or omission.

5. Duty to Provide Information

a. The Permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, suspending, terminating, or revoking and reissuing this Permit, in whole or in part, or to determine compliance with this Permit. The Permittee shall also furnish to the Director upon request, copies of records required to be maintained by this Permit.

b. The Permittee shall furnish to the Director upon request, within a reasonable time, available information (name, phone number, address, and site location) which identifies offsite sources of material or natural resources (mineral, ore, or other material such as iron, coal, coke, dirt, chert, shale, clay, sand, gravel, bauxite, rock, stone, etc.) used in its operation or stored at the facility.

I. SCHEDULE OF COMPLIANCE

The Permittee shall achieve compliance with the discharge limitations specified in Part I.A. of this Permit in accordance with the following schedule:

Compliance must be achieved by the effective date of this Permit.

PART II OTHER REQUIREMENTS, RESPONSIBILITIES, AND DUTIES

A. OPERATIONAL AND MANAGEMENT REQUIREMENTS

1. Facilities Operation and Management

The Permittee shall at all times operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures.

2. Best Management Practices (BMPs)

a. Dilution water shall not be added to achieve compliance with discharge limitations except when the Director has granted prior written authorization for dilution to meet water quality requirements.

b. No later than ninety (90) days after the issuance date of this Permit, the Permittee shall prepare, submit to the Department, and implement a Best Management Practices (BMPs) Plan that addresses the control of all nonpoint source pollution that is or may be associated with the Permittee's operations. These BMP plans should be based on best available technology, and include, but not be limited to, containment of any or all process liquids or solids in a manner such that these materials do not present a potential for discharge; stormwater runoff associated with wellpad construction and maintenance, roads, borrow pits less than 5 acres in size, and dirt or other material stockpiles; and water, wastewater, and other fluids acquisition operations that is or may be associated with the Permittee's operations. Protection and preservation of all surface waters onsite should be discussed, including (but not limited to) stream crossing(s), access roads, and other construction activities adjacent to waters of the State. When submitted, the BMP Plan shall become a part of this Permit and all requirements of the BMP Plan shall become requirements of this Permit. The BMPs shall include at a minimum:

(1) Plans to prevent or control pollution of stormwater by soil particles to the degree required to maintain compliance with this Permit and water quality standards;

(2) Plans to prevent the spillage or loss of any fluids, oil, grease, etc. and thereby prevent the contamination of stormwater from these substances;

(3) Plans to provide for the disposal of all used oils, hydraulic fluids, solvent degreasing materials, etc. in accordance with good management practices and any applicable state or federal regulations;

(4) Plans to prevent or minimize stormwater contact with any pollutants present at the facility;

(5) Descriptions of stormwater volume and velocity controls within the site to minimize soil erosion;

(6) Plans to minimize the amount of soil exposed during construction activity through the use of project phasing or other appropriate techniques;

(7) Plans to minimize the disturbance of steep slopes, unless infeasible;

(8) Plans to minimize sediment discharges from the site;

(9) Plans to minimize the generation of dust;

(10) Descriptions of construction entrance and exit stabilization to minimize off-site tracking of sediment from vehicles;

(11) Plans to minimize soil compaction and, unless infeasible, preserve topsoil;

(12) If applicable, the location and description of each borrow pit, a description of the stormwater discharge controls, and how the borrow pits will be reclaimed or closed in order to remediate any potential adverse impacts on water quality;

(13) If applicable, the exact location of each water, wastewater, and other fluids acquisition site and the method of withdrawal;

(14) If applicable, plans for the protection and preservation of all surface waters at all fluids acquisition sites or other waters which might be impacted, including, but not limited to, rivers, perennial and intermittent streams, lakes or impoundments, ponded areas, old treatment lagoons and sedimentation basins, dry hollows, subsurface wells, and all areas adjacent to waters of the State that are disturbed during water acquisition.

c. All borrow pits authorized by this permit must at all times total less than five unreclaimed acres, and must be used exclusively by the Permittee for the permitted facility. In addition to the inspections conducted by the Permittee referenced in Part I.D.2., of this Permit, the Permittee must conduct, at a minimum, monthly inspections of the borrow pits. The inspections of the borrow pits may not be used when calculating the monthly 4% increments of the Permitted facility.

d. Spill Prevention, Control, and Management

The Permittee shall prepare, implement, and maintain a Spill Prevention, Control and Countermeasures (SPCC) Plan acceptable to the Department that is prepared and certified by a Professional Engineer (PE), registered in the State of Alabama, for all onsite petroleum product or other pollutant storage tanks or containers as required by applicable state (ADEM Admin. Code r. 335-6-6-.12 (r)) and federal (40 C.F.R. §§112.1-.7) regulations. The Permittee shall implement appropriate structural and/or non-structural spill prevention, control, and/or management sufficient to prevent any spills of pollutants from entering a ground or surface water of the State or a publicly or privately owned treatment works. Careful consideration should be applied for tanks or containers located near treatment ponds, water bodies, or high traffic areas. In most situations this would require construction of a containment system if the cumulative storage capacity of petroleum products or other pollutants at the facility is greater than 1320 gallons. Any containment system used to implement this requirement shall be constructed of materials compatible with the substance(s) contained and shall prevent the contamination of groundwater. Such containment systems shall be capable of retaining a volume equal to 110 percent of the capacity of the largest tank for which containment is provided. The applicant shall maintain onsite or have readily available flotation booms to contain, and sufficient material to absorb, fuel and chemical spills and leaks. Soil contaminated by chemical spills, oil spills, etc., must be immediately cleaned up or be removed and disposed of in an approved manner.

3. Biocide Additives

a. The Permittee shall notify the Director in writing not later than sixty (60) days prior to instituting the use of any biocide corrosion inhibitor or chemical additive in any cooling or boiler system(s) regulated by this Permit. Notification is not required for additives that

should not reasonably be expected to cause the cooling water or boiler water to exhibit toxicity as determined by analysis of manufacturer's data or testing by the Permittee. Such notification shall include:

(1) Name and general composition of biocide or chemical;

(2) 96-hour median tolerance limit data for organisms representative of the biota of the water(s) which the discharge(s) enter(s);

(3) Quantities to be used;

(4) Frequencies of use;

(5) Proposed discharge concentrations; and

(6) EPA registration number, if applicable.

b. The use of any biocide or chemical additive containing tributyl tin, tributyl tin oxide, zinc, chromium, or related compounds in any cooling or boiler system(s) regulated by the Permit is prohibited except as exempted below. The use of a biocide or additive containing zinc, chromium or related compounds may be used in special circumstances if (1) the Permit contains limits for these substances, or (2) the applicant demonstrates during the application process that the use of zinc, chromium or related compounds as a biocide or additive will not pose a reasonable potential to violate the applicable State water quality standards for these substances. The use of any additive, not identified in this Permit or in the application for this Permit or not exempted from notification under this Permit is prohibited, prior to a determination by the Department that permit modification to control discharge of the additive is not required or prior to issuance of a permit modification controlling discharge of the additive.

4. Facility Identification

The Permittee shall clearly display prior to commencement of any regulated activity and until permit coverage is properly terminated, the name of the Permittee, entire NPDES permit number, facility or site name, and other descriptive information deemed appropriate by the Permittee at an easily accessible location(s) to adequately identify the site, unless approved otherwise in writing by the Department. The Permittee shall repair or replace the sign(s) as necessary upon becoming aware that the identification is missing or is unreadable due to age, vandalism, theft, weather, or other reason(s).

5. Removed Substances

Solids, sludges, filter backwash, or any other pollutants or other wastes removed in the course of treatment or control of wastewaters shall be disposed of in a manner that complies with all applicable Department rules and regulations.

6. Loss or Failure of Treatment Facilities

Upon the loss or failure of any treatment facility, including but not limited to the loss or failure of the primary source of power of the treatment facility, the Permittee shall, where necessary to maintain compliance with the discharge limitations specified in Part I.A. of this Permit or any other terms or conditions of this Permit, cease, reduce, or otherwise control production and/or discharges until treatment is restored.

7. Duty to Mitigate

The Permittee shall promptly take all reasonable steps to minimize or prevent any violation of this Permit or to mitigate and minimize any adverse impact to waters resulting from noncompliance with any discharge limitation specified in Part I.A. of this Permit, including such accelerated or additional monitoring of the discharge and/or the receiving waterbody as is necessary to determine the nature and impact of the noncomplying discharge.

B. BYPASS AND UPSET

1. Bypass

a. Any bypass is prohibited except as provided in Parts II.B.1.b. and c.

b. A bypass is not prohibited if:

(1) It does not cause any applicable discharge limitation specified in Part I.A. of this Permit to be exceeded;

(2) The discharge resulting from such bypass enters the same receiving water as the discharge from the permitted outfall;

(3) It is necessary for essential maintenance of a treatment or control facility or system to assure efficient operation of such facility or system; and

(4) The Permittee monitors the discharge resulting from such bypass at a frequency, at least daily, sufficient to prove compliance with the discharge limitations specified in Part I.A. of this Permit.

c. A bypass is not prohibited and need not meet the discharge limitations specified in Part I.A. of this Permit if:

(1) It is unavoidable to prevent loss of life, personal injury, or severe property damage;

(2) There are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the Permittee could have installed adequate backup equipment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(3) The Permittee submits a written request for authorization to bypass to the Director at least ten (10) days, if possible, prior to the anticipated bypass or within 24 hours of an unanticipated bypass, the Permittee is granted such authorization, and Permittee complies with any conditions imposed by the Director to minimize any adverse impact to waters resulting from the bypass.

d. The Permittee has the burden of establishing that each of the conditions of Parts II.B.1.b. or c. have been met to qualify for an exception to the general prohibition against bypassing contained in Part II.B.1.a. and an exemption, where applicable, from the discharge limitations specified in Part I.A. of this Permit.

2. Upset

a. A discharge which results from an upset need not meet the applicable discharge limitations specified in Part I.A. of this Permit if:

(1) No later than 24-hours after becoming aware of the occurrence of the upset, the Permittee orally reports the occurrence and circumstances of the upset to the Director; and

(2) No later than five (5) days after becoming aware of the occurrence of the upset, the Permittee furnishes the Director with evidence, including properly signed, contemporaneous operating logs, design drawings, construction certification, maintenance records, weir flow measurements, dated photographs, rain gauge measurements, or other relevant evidence, demonstrating that:

(i) An upset occurred;

(ii) The Permittee can identify the specific cause(s) of the upset;

(iii) The Permittee's treatment facility was being properly operated at the time of the upset; and

(iv) The Permittee promptly took all reasonable steps to minimize any adverse impact to waters resulting from the upset.

b. The Permittee has the burden of establishing that each of the conditions of Part II.B.2.a. have been met to qualify for an exemption from the discharge limitations specified in Part I.A. of this Permit.

C. PERMIT CONDITIONS AND RESTRICTIONS

1. Prohibition against Discharge from Facilities Not Certified

a. Notwithstanding any other provisions of this Permit, any discharge(s) from any point source(s) from the permitted facility which was not certified to the Department by a professional engineer, registered in the State of Alabama, as being designed, constructed, and able to be operated in accordance with design plans reviewed by the Department, terms and conditions of this Permit, Departmental regulations and good engineering practices, is prohibited until the Permittee submits to the Department, on a form approved by the Department, a certification by a professional engineer certifying that all such facility(s) have been constructed and are able to be operated in accordance with design plans reviewed by the Department, terms and conditions of this Permit, Departmental regulations and good engineering practices.

2. Permit Modification, Suspension, Termination, and Revocation

a. This Permit may be modified, suspended, terminated, or revoked and reissued, in whole or in part, during its term for cause, including but not limited to, the following:

(1) The violation of any term or condition of this Permit;

(2) The obtaining of this Permit by misrepresentation or the failure to disclose fully all relevant facts;

(3) The submission of materially false or inaccurate statements or information in the permit application or reports required by the Permit;

(4) The need for a change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge;

(5) The existence of any typographical or clerical errors or of any errors in the calculation of discharge limitations;

(6) The existence of material and substantial alterations or additions to the facility or activity generating wastewater which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit;

(7) The threat of the Permittee's discharge on human health or welfare; or

(8) Any other cause allowed by ADEM Admin. Code ch. 335-6-6.

b. The filing of a request by the Permittee for modification, suspension, termination, or revocation and reissuance of this Permit, in whole or in part, does not stay any Permit term or condition of this Permit.

3. Automatic Expiration of Permits for New or Increased Discharges

a. Except as provided by ADEM Admin. Code r. 335-6-6-.02(g) and 335-6-6-.05, if this Permit was issued for a new discharger or new source, it shall expire eighteen months after the issuance date if construction has not begun during that eighteen month period.

b. Except as provided by ADEM Admin. Code r. 335-6-6-.02(g) and 335-6-6-.05, if any portion of this Permit was issued or modified to authorize the discharge of increased quantities of pollutants to accommodate the modification of an existing facility, that portion of this Permit shall expire eighteen months after this Permit's issuance if construction of the modification has not begun within eighteen month period.

c. Construction has begun when the owner or operator has:

(1) Begun, or caused to begin as part of a continuous on-site construction program:

(i) Any placement, assembly, or installation of facilities or equipment; or

(ii) Significant site preparation work including clearing, excavation, or removal of existing buildings, structures, or facilities which is necessary for the placement, assembly, or installation of new source facilities or equipment; or

(2) Entered into a binding contractual obligation for the purpose of placement, assembly, or installation of facilities or equipment which are intended to be used in its operation within a reasonable time. Options to purchase or contracts which can be terminated or modified without substantial loss, and contracts for feasibility, engineering, and design studies do not constitute a contractual obligation under the paragraph. The entering into a lease with the State of Alabama for exploration and production of hydrocarbons shall also be considered beginning construction.

d. The automatic expiration of this Permit for new or increased discharges if construction has not begun within the eighteen month period after the issuance of this Permit may be tolled by administrative or judicial stay.

4. Transfer of Permit

This Permit may not be transferred or the name of the Permittee changed without notice to the Director and subsequent modification or revocation and reissuance of this Permit to identify the new Permittee and to incorporate any other changes as may be required under the FWPCA or AWPCA. In the case of a change in name, ownership, or control of the Permittee's premises only, a request for permit modification in a format acceptable to the Director is required at least 30 days prior to the change. In the case of a change in name, ownership, or control of the Permittee's premises accompanied by a change or proposed change in effluent characteristics, a complete permit application is required to be submitted to the Director at least 180 days prior to the change. Whenever the Director is notified of a change in name, ownership, or control, he may decide not to modify the existing Permit and require the submission of a new permit application.

5. Groundwater

Unless authorized on page 1 of this Permit, this Permit does not authorize any discharge to groundwater. Should a threat of groundwater contamination occur, the Director may require groundwater monitoring to properly assess the degree of the problem, and the Director may require that the Permittee undertake measures to abate any such discharge and/or contamination.

6. Property and Other Rights

This Permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to persons or property or invasion of other private rights, trespass, or any infringement of Federal, State, or local laws or regulations, nor does it authorize or approve the construction of any physical structures or facilities or the undertaking of any work in any waters of the State or of the United States.

D. RESPONSIBILITIES

1. Duty to Comply

a. The Permittee must comply with all terms and conditions of this Permit. Any permit noncompliance constitutes a violation of the AWPCA, AEMA, and the FWPCA and is grounds for enforcement action, permit termination, revocation and reissuance, suspension, modification, or denial of a permit renewal application.

b. The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the FWPCA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Permit has not yet been modified to incorporate the effluent standard, prohibition or requirement.

c. For any violation(s) of this Permit, the Permittee is subject to a civil penalty as authorized by the AWPCA, the AEMA, the FWPCA, and Code of Alabama 1975, §§22-22A-1 et. seq., as amended, and/or a criminal penalty as authorized by Code of Alabama 1975, §22-22-1 et. seq., as amended.

d. The necessity to halt or reduce production or other activities in order to maintain compliance with the conditions of this Permit shall not be a defense for a Permittee in an enforcement action.

e. Nothing in this Permit shall be construed to preclude or negate the Permittee's responsibility or liability to apply for, obtain, or comply with other ADEM, Federal, State, or local government permits, certifications, licenses, or other approvals.

f. The discharge of a pollutant from a point source not specifically identified in the permit application for this Permit and not specifically included in the description of an outfall in this Permit is not authorized and shall constitute noncompliance with this Permit.

g. The Permittee shall take all reasonable steps, including cessation of production or other activities, to minimize or prevent any violation of this Permit or to minimize or prevent any adverse impact of any permit violation.

2. Change in Discharge

a. The Permittee shall apply for a permit modification at least 180 days in advance of any facility expansion, production increase, process change, or other action that could result in the discharge of additional pollutants, increase the quantity of a discharged pollutant, or that could result in an additional discharge point. This requirement also applies to pollutants that are not subject to discharge limitations in this Permit. No new or increased discharge may begin until the Director has authorized it by issuance of a permit modification or a reissued permit.

b. The Permittee shall notify the Director as soon as it is known or there is reason to believe:

(1) That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis, of any toxic pollutant which is not limited in this Permit, if that discharge will exceed the highest of the following notification levels:

(a) one hundred micrograms per liter;

(b) two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4,6-dini-trophenol; and one milligram per liter for antimony;

(c) five times the maximum concentration value reported for that pollutant in the permit application; or

(2) That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the Permit, if that discharge will exceed the highest of the following notification levels:

(a) five hundred micrograms per liter;

(b) one milligram per liter for antimony;

(c) ten times the maximum concentration value reported for that pollutant in the permit application.

c. The Permittee shall notify the Director as soon as it knows or has reason to believe that it has begun or expects to begin to discharge any pollutant listed as a toxic pollutant pursuant to Section 307(a) of the FWPCA, 33 U.S.C. §1317(a), any substance designated as a hazardous substance pursuant to Section 311(b)(2) of the FWPCA, 33 U.S.C. §1321(b)(2), any waste listed as a hazardous waste pursuant to Code of Alabama 1975,

§22-30-10, or any other pollutants or other wastes which is not subject to any discharge limitations specified in Part I.A. of this Permit and was not reported in the Permittee's application, was reported in the Permittee's application in concentrations or mass rates lower than that which the Permittee expects to begin to be discharged, or has reason to believe has begun to be discharged.

3. Compliance with Toxic or Other Pollutant Effluent Standard or Prohibition

If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Sections 301(b)(2)(C),(D),(E) and (F) of the FWPCA, 33 U.S.C. §1311(b)(2)(C),(D),(E), and (F); 304(b)(2) of the FWPCA, 33 U.S.C. §1314(b)(2); or 307(a) of the FWPCA, 33 U.S.C. §1317(a), for a toxic or other pollutant discharged by the Permittee, and such standard or prohibition is more stringent than any discharge limitation on the pollutant specified in Part I.A. of this Permit or controls a pollutant not limited in Part I.A. of this Permit, this Permit shall be modified to conform to the toxic or other pollutant effluent standard or prohibition and the Permittee shall be notified of such modification. If this Permit has not been modified to conform to the toxic or other pollutant effluent standard or prohibition before the effective date of such standard or prohibition, the authorization to discharge in this Permit shall be void to the extent that any discharge limitation of such pollutant in Part I.A. of this Permit exceeds or is inconsistent with the established toxic or other pollutant effluent standard or prohibition.

4. Compliance with Water Quality Standards and Other Provisions

a. On the basis of the Permittee's application, plans, or other available information, the Department has determined that compliance with the terms and conditions of this Permit will assure compliance with applicable water quality standards. However, this Permit does not relieve the Permittee from compliance with applicable State water quality standards established in ADEM Admin. Code ch. 335-6-10, and does not preclude the Department from taking action as appropriate to address the potential for contravention of applicable State water quality standards which could result from discharges of pollutants from the permitted facility.

b. Compliance with Permit terms and conditions notwithstanding, if the Permittee's discharge(s) from point source(s) identified on Page 1 of this Permit cause(s) or contribute(s) to a condition in contravention of State water quality standards, the Department may require abatement action to be taken by the Permittee, modify the Permit pursuant to the Department's rules and regulations, or both.

c. If the Department determines, on the basis of a notice provided pursuant to Part II.D.2. of this Permit or any investigation, inspection, or sampling, that a modification of this Permit is necessary to assure maintenance of water quality standards or compliance with other provisions of the AWPCA or FWPCA, the Department may require such modification and, in cases of emergency, the Director may prohibit the noticed act until the Permit has been modified.

5. Compliance with Statutes and Rules

a. This Permit has been issued under ADEM Admin. Code div. 335-6. All provisions of this division, that are applicable to this Permit, are hereby made a part of this Permit. A copy of this division may be obtained for a small charge from the Office of General Counsel, Alabama Department of Environmental Management, 1400 Coliseum Blvd., Montgomery, AL 36110-2059.

b. This Permit does not authorize the noncompliance with or violation of any Laws of the State of Alabama or the United States of America or any regulations or rules

implementing such laws. FWPCA, 33 U.S.C. Section 1319, and Code of Alabama 1975, Section 22-22-14.

6. Right of Entry and Inspection

The Permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:

a. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the Permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring Permit compliance or as otherwise authorized by the AWPCA, any substances or parameters at any location.

7. Duty to Reapply or Notify of Intent to Cease Discharge

a. If the Permittee intends to continue to discharge beyond the expiration date of this Permit, the Permittee shall file with the Department a complete permit application for reissuance of this Permit at least 180 days prior to its expiration.

b. If the Permittee does not desire to continue the discharge(s) allowed by this Permit, the Permittee shall notify the Department at least 180 days prior to expiration of this Permit of the Permittee's intention not to request reissuance of this Permit. This notification must be signed by an individual meeting the signatory requirements for a permit application as set forth in ADEM Admin. Code r. 335-6-6-.09.

c. Failure of the Permittee to submit to the Department a complete application for reissuance of this Permit at least 180 days prior to the expiration date of this Permit will void the automatic continuation of this Permit as provided by ADEM Admin. Code r. 335-6-6-.06, and should this Permit not be reissued for any reason, any discharge after the expiration of this Permit will be an unpermitted discharge.

PART III ADDITIONAL REQUIREMENTS, CONDITIONS, AND LIMITATIONS

A. CIVIL AND CRIMINAL LIABILITY

1. Tampering

Any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained or performed under this Permit shall, upon conviction, be subject to penalties and/or imprisonment as provided by the AWPCA and/or the AEMA.

2. False Statements

Any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be subject to penalties and/or imprisonment as provided by the AWPCA and/or the AEMA.

3. Permit Enforcement

This NPDES Permit is a Permit for the purpose of the AWPCA, the AEMA, and the FWPCA, and as such all terms, conditions, or limitations of this Permit are enforceable under State and Federal law.

4. Relief From Liability

Except as provided in Part II.B.1. (Bypass) and Part II.B.2. (Upset), nothing in this Permit shall be construed to relieve the Permittee of civil or criminal liability under the AWPCA, AEMA, or FWPCA for noncompliance with any term or condition of this Permit.

B. OIL AND HAZARDOUS SUBSTANCE LIABILITY

Nothing in this Permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties to which the Permittee is or may be subject to under Section 311 of the FWPCA, 33 U.S.C. §1321.

C. AVAILABILITY OF REPORTS

Except for data determined to be confidential under Code of Alabama 1975, §22-22-9(c), all reports prepared in accordance with the terms of this Permit shall be available for public inspection at the offices of the Department. Effluent data shall not be considered confidential. Knowingly making any false statement in any such report may result in the imposition of criminal penalties as provided for in Section 309 of the FWPCA, 33 U.S.C. §1319, and Code of Alabama 1975, §22-22-14.

D. DEFINITIONS

1. Alabama Environmental Management Act (AEMA) - means Code of Alabama 1975, §§22-22A-1 et. seq., as amended.

2. Alabama Water Pollution Control Act (AWPCA) - means Code of Alabama 1975, §§22-22-1 et. seq., as amended.

3. Average monthly discharge limitation - means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar

month divided by the number of "daily discharges" measured during that month (zero discharge days shall not be included in the number of "daily discharges" measured and a less than detectable test result shall be treated as a concentration of zero if the most sensitive EPA approved method was used).

4. Arithmetic Mean - means the summation of the individual values of any set of values divided by the number of individual values.

5. Bypass - means the intentional diversion of waste streams from any portion of a treatment facility.

6. Daily discharge - means the discharge of a pollutant measured during any consecutive 24-hour period in accordance with the sample type and analytical methodology specified by the discharge permit.

7. Daily maximum - means the highest value of any individual sample result obtained during a day.

8. Daily minimum - means the lowest value of any individual sample result obtained during a day.

9. Day - means any consecutive 24-hour period.

10. Department - means the Alabama Department of Environmental Management.

11. Director - means the Director of the Department or his authorized representative or designee.

12. Discharge - means "[t]he addition, introduction, leaking, spilling or emitting of any sewage, industrial waste, pollutant or other waste into waters of the state." Code of Alabama 1975, §22-22-1(b)(8).

13. Discharge monitoring report (DMR) - means the form approved by the Director to accomplish monitoring report requirements of an NPDES permit.

14. 8HC - means 8-hour composite sample, including any of the following:

    a. The mixing of at least 5 equal volume samples collected at constant time intervals of not more than 2 hours over a period of not less than 8 hours between the hours of 6:00 a.m. and 6:00 p.m. If the sampling period exceeds 8 hours, sampling may be conducted beyond the 6:00 a.m. to 6:00 p.m. period.

    b. A sample continuously collected at a constant rate over period of not less than 8 hours between the hours of 6:00 a.m. and 6:00 p.m. If the sampling period exceeds 8 hours, sampling may be conducted beyond the 6:00 a.m. to 6:00 p.m. period.

15. EPA - means the United States Environmental Protection Agency.

16. Federal Water Pollution Control Act (FWPCA) - means 33 U.S.C. §§1251 et. seq., as amended.

17. Flow - means the total volume of discharge in a 24-hour period.

18. Grab Sample - means a single influent or effluent portion which is not a composite sample. The sample(s) shall be collected at the period(s) most representative of the discharge.

19. mg/L - means milligrams per liter of discharge.

20. MGD - means million gallons per day.

21. Mixing Zone - that portion of the receiving waters where mixture of effluents and natural waters take place. Mixing zones must meet the requirements of ADEM Admin. Code r. 335-6-6-.15(10).

22. Monthly Average - means, other than for E. coli bacteria, the arithmetic mean of all the composite or grab samples taken for the daily discharges collected in one month period. The monthly average for E. coli bacteria is the geometric mean of daily discharge samples collected in a one month period. The monthly average for flow is the arithmetic mean of all flow measurements taken in a one month period. (Zero discharges shall not be included in the calculation of monthly averages.)

23. New Source - means any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:

    a. After promulgation of standards of performance under Section 306 of FWPCA which are applicable to such source; or

    b. After proposal of standards of performance in accordance with Section 306 of the FWPCA which are applicable to such source, but only if the standards are promulgated in accordance with Section 206 within 120 days of their proposal.

24. Permit application - means forms and additional information that are required by ADEM Admin. Code r. 335-6-6-.08 and applicable permit fees.

25. Point Source - means "any discernible, confined and discrete conveyance, including but not limited to any pipe, channel, ditch, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft from which pollutants are or may be discharged." Section 502(14) of the FWPCA, 33 U.S.C. §1362(14).

26. Pollutant - includes for purposes of this Permit, but is not limited to, those pollutants specified in Code of Alabama 1975, §22-22-1(b)(3) and those effluent characteristics, excluding flow, specified in Part I.A. of this Permit.

27. Pollutant of Concern - means those pollutants for which a water body is listed as impaired or which contribute to the listed impairment.

28. Process Wastewater – means any discharge(s) of water other than stormwater discharges.

29. Produced Water – means all water produced from the dewatering of coal and related seams, not to include flowback from fracturing and cement returns.

30. Receiving Stream - means the "waters" receiving a "discharge" from a "point source".

31. Severe property damage - means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

32. Stimulation - means any process used to clean a well bore, enlarge channels, increase permeability or increase pore spaces in a formation, thus making it possible for formation fluids to move more rapidly and greater distances through the formation, and may include surging, jetting, acidizing, or fracturing.

33. Stimulation fluids - means all fluids used for and associated with the stimulation of coal seams.

34. Stormwater discharges - means any discharges related to storm events or snow melt.

35. Treatment facility and treatment system - means all structures which contain, convey, and as necessary, chemically or physically treat coalbed methane extraction operations process wastewater, produced wastewater, or drainage from associated areas, which remove pollutants limited by this Permit from such drainage or wastewater. This includes all pipes, channels, ponds, tanks, and all other equipment serving such structures.

36. 24 Hour Composite - means a 24-hour composite sample, including any of the following:

    a. The mixing of at least 12 equal volume samples collected at constant time intervals of not more than 2 hours over a period of 24 hours;

    b. A sample collected over a consecutive 24-hour period using an automatic sampler composite to one sample. As a minimum, samples shall be collected hourly and each shall be no more than one twenty-fourth (1/24) of the total sample volume collected; or

    c. A sample collected over a consecutive 24-hour period using an automatic composite sampler composited proportional to flow.

37. Upset - means an exceptional incident in which there is an unintentional and temporary noncompliance with technology-based permit discharge limitations because of factors beyond the control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate facilities, lack of preventive maintenance, or careless or improper operation.

38. Waters - means "[a]ll waters of any river, stream, watercourse, pond, lake, coastal, ground or surface water, wholly or partially within the State, natural or artificial. This does not include waters which are entirely confined and retained completely upon the property of a single individual, partnership, or corporation unless such waters are used in interstate commerce." Code of Alabama 1975, §22-22-1(b)(2). "Waters" include all "navigable waters" as defined in §502(7) of the FWPCA, 33 U.S.C. §1362(7), which are within the State of Alabama.

39. Week - means the period beginning at twelve midnight Saturday and ending at twelve midnight the following Saturday.

40. Weekly (7-day and calendar week) Average - the arithmetic mean of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. The calendar week is defined as beginning on Sunday and ending on Saturday. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If a calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for the calendar week shall be included in the data for the month that contains the Saturday.

41. Zone of Initial Dilution (ZID) - the area extending from the port openings of a high rate diffuser to the initial edge of the mixing zone where, due to great turbulence, a constant instream waste concentration (IWC) cannot be determined. A ZID must meet the requirements of ADEM Admin. Code r. 335-6-6-.02(ggg)

E. SEVERABILITY

The provisions of this Permit are severable, and if any provision of this Permit or the application of any provision of this Permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this Permit, shall not be affected thereby.

F. PROHIBITIONS AND ACTIVIES NOT AUTHORIZED

1. Discharges from disposal or landfill activities as described in ADEM Admin. Code div. 335-13 are not authorized by this Permit unless specifically approved by the Department.

2. Relocation, diversion, or other alteration of a water of the State is not authorized by this Permit unless specifically approved by the Department.

3. The discharge of wastewater, generated by any process, facility, or by any other means not under the operational control of the Permittee or not identified in the application for this Permit or not identified specifically in the description of an outfall in this Permit is not authorized by this Permit.

4. Discharges of stormwater, process water, produced water, other wastewaters, or other pollutants from exploration, development, production, closure, and associated activities, of hydrocarbons from sources other than coal seams (e.g., conventional oil and natural gas operations) are not authorized by this Permit unless specifically approved in writing by the Director. The Permittee shall submit documentation and must receive approval from the Department prior to inclusion, under this Permit discharges of stormwater, process water, and other wastewaters from any well that has been, or will be converted from conventional oil and gas exploration or other hydrocarbon development, or production operations to coalbed methane operations

PART IV SPECIAL REQUIREMENTS, RESTRICTIONS, AND LIMITATIONS

A. DISCHARGES TO IMPAIRED WATERS

1. This Permit does not authorize new sources or new discharges of pollutants of concern to impaired waters unless consistent with an EPA-approved or EPA-established Total Maximum Daily Load (TMDL) and applicable State law. Impaired waters are those that do not meet applicable water quality standards and are identified on the State of Alabama's §303(d) list or on an EPA-approved or EPA-established TMDL. Pollutants of concern are those pollutants for which the receiving water is listed as impaired or contribute to the listed impairment.

2. Facilities that discharge into a receiving stream which is listed on the State of Alabama's §303(d) list of impaired waters, and with discharges that contain the pollutant(s) for which the waters are impaired, must within six (6) months of the Final §303(d) list approval, document in its BMP plan how the BMPs will control the discharge of the pollutant(s) of concern, and must ensure that there will be no increase of the pollutants of concern. A monitoring plan to assess the effectiveness of the BMPs in achieving the allocations must also be included in the BMP plan.

3. If the facility discharges to impaired waters as described above, it must determine whether a TMDL has been developed and approved or established by EPA for the listed waters. If a TMDL is approved or established during this Permit cycle by EPA for any waters into which the facility discharges, the facility must review the applicable TMDL to see if it includes requirements for control of any water discharged by the Permittee. Within six (6) months of the date of TMDL approval or establishment, the facility must notify the Department on how it will modify its BMP plan to include best management practices specifically targeted to achieve the allocations prescribed by the TMDL, if necessary. Any revised BMP plans must be submitted to the Department for review. The facility must include in the BMP plan a monitoring component to assess the effectiveness of the BMPs in achieving the allocations.

B. EFFLUENT TOXICITY LIMITATIONS AND BIOMONITORING REQUIREMENTS FOR CHRONIC TOXICITY

Except as provided below, the Permittee shall perform short-term chronic toxicity screening tests on the discharges required to be tested for chronic toxicity in Part I.A. of this Permit.

The Permittee may certify, in writing, that the activities at the site at the time of sample collection will result in representative discharges, and therefore perform the toxicity tests on only the samples collected from the representative outfalls. The certification must be signed by a responsible official of the Permittee as defined in ADEM Admin Code r. 335-6-6-.09 and include the following statement:

> "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

1. Test Requirements

a. The tests shall be performed using effluent diluted, using appropriate control water, to the Instream Waste Concentration (IWC) which is **10%** effluent for Outfall 001-1 and **100%** for Outfall 002-1.

a. Any test result that shows a statistically significant reduction in survival, growth or reproduction between the control and the test at the 95% confidence level indicate chronic toxicity and constitute noncompliance with this permit.

2. General Test Requirements

a. A 24 hour composite sample shall be obtained for use in the above biomonitoring tests. The holding time for each sample shall not exceed 36 hours. The control water shall be a water prepared in the laboratory in accordance with the EPA procedure described in EPA 821-R-02-012 or most current edition or another control water selected by the Permittee and approved by the Department.

b. Effluent toxicity tests in which the control survival is less than 90% or in which the other requirements of the EPA Test Procedure are not met shall be unacceptable and the Permittee shall rerun the tests as soon as practical within the monitoring period.

c. In the event of an invalid test, upon subsequent completion of a valid test, the results of all tests, valid and invalid, are reported with an explanation of the tests performed and results.

d. Should results from four consecutive testing periods indicate that effluent from a point source identified on Page 1 of this Permit does not exhibit chronic toxicity, the Permittee may request that the toxicity testing frequency be reduced to semiannual. A reduction in toxicity testing frequency will be allowed only if approved by the Department in writing. The required toxicity testing frequency will revert back to once per quarter under the following conditions:

(1) If effluent from a point source identified on Page 1 of this Permit continues to exhibit chronic toxicity in any of the four (4) additional chronic toxicity tests following the initial indication of chronic toxicity as specified in Part IV.B.4., unless waived in writing by the Department; and

(2) If the characteristics of the effluent from a point source identified on Page 1 of this Permit changes significantly from the effluent which was discharging when the reduction in frequency was approved. Such changes in characteristics may include, but are not limited to, changes in stimulation fluids.

3. Reporting Requirements

a. The Permittee shall notify the Department in writing within 48 hours after toxicity has been demonstrated by the scheduled test(s).

b. Biomonitoring test results obtained during each monitoring period shall be summarized and reported using the appropriate Discharge Monitoring Report (DMR) form approved by the Department. An effluent toxicity report containing the information in Part IV.B.6. shall be included with the DMR. Two copies of the test results must be submitted to the Department no later than 28 days after the month in which the tests were performed.

4. Additional Testing Requirements

a. If chronic toxicity is indicated (noncompliance with permit limit), the Permittee shall perform four (4) additional valid chronic toxicity tests in accordance with these procedures. The toxicity tests shall be performed once per week and shall be performed during the first four calendar weeks after becoming aware of the chronic toxicity. The results of these tests shall be submitted no later than 28 days following the month in

which the tests were performed. Additional testing sample collection and analysis timeframes may be extended, as necessary, to obtain the samples during discharges.

b. After evaluation of the results of the additional tests, the Department will determine if additional action is appropriate and may require additional testing and/or toxicity reduction measures. The Permittee may be required to perform a Toxicity Identification Evaluation (TIE) and/or a Toxicity Reduction Evaluation (TRE). The TIE/TRE shall be performed in accordance with the most recent protocols/guidance outlined by EPA (e.g., EPA/600/2-88/062, EPA/600/R-92/080, EPA/600/R-92/081, EPA/833/B-99/022 and/or EPA/600/6-91/005F, etc.).

5. Test Methods

The tests shall be performed in accordance with the latest edition of the "EPA Methods for Measuring the Chronic Toxicity of Effluents to Freshwater and Marine Organisms" and shall be performed using the fathead minnow (*Pimephales promelas*) and the cladoceran (*Ceriodaphnia dubia*).

6. Effluent Toxicity Testing Reports

The following information shall be submitted with each discharge monitoring report unless otherwise directed by the Department. The Department may at any time suspend or reinstate this requirement or may increase or decrease the frequency of submittals.

a. Introduction

(1) Facility Name, location and county

(2) Permit number

(3) Toxicity testing requirements of permit

(4) Name of receiving water body

(5) Contract laboratory information (if tests are performed under contract)

(i) Name of firm

(ii) Telephone number

(iii) Address

(6) Objective of test

b. Plant Operations

(1) Discharge operating schedule (if other than continuous)

(2) Volume of discharge during sample collection to include Mean daily discharge on sample collection date (MGD, CFS, GPM)

c. Source of Effluent and Dilution Water

(1) Effluent samples

(i) Sampling point

(ii) Sample collection date(s) and time(s)

(iii) Sample collection method

(iv) Physical and chemical data of undiluted effluent samples (water temperature, pH, alkalinity, hardness, specific conductance, total residual chlorine (if applicable), etc.)

(v) Sample temperature when received at the laboratory

(vi) Lapsed time from sample collection to delivery

(vii) Lapsed time from sample collection to test initiation

(2) Dilution Water samples

(i) Source

(ii) Collection date(s) and time(s) (where applicable)

(iii) Pretreatment (if applicable)

(iv) Physical and chemical characteristics (pH, hardness, water temperature, alkalinity, specific conductivity, etc.)

d. Test Conditions

(1) Toxicity test method utilized

(2) End point(s) of test

(3) Deviations from referenced method, if any, and reason(s)

(4) Date and time test started

(5) Date and time test terminated

(6) Type and volume of test chambers

(7) Volume of solution per chamber

(8) Number of organisms per test chamber

(9) Number of replicate test chambers per treatment

(10) Test temperature, pH and dissolved oxygen as recommended by the method (to include ranges)

(11) Feeding frequency, and amount and type of food

(12) Light intensity (mean)

e. Test Organisms

(1) Scientific name

(2) Life stage and age

(3) Source

(4) Disease treatment (if applicable)

f. Quality Assurance

(1) Reference toxicant utilized and source

(2) Date and time of most recent chronic reference toxicant test(s), raw data, and current cusum chart(s)

(3) Dilution water utilized in reference toxicant test

(4) Results of reference toxicant test(s) (LC50, etc.), report concentration-response relationship and evaluate test sensitivity. The most recent reference toxicant test shall be conducted within 30-days of the routine.

(5) Physical and chemical methods utilized

g. Results

(1) Provide raw toxicity data in tabular form, including daily records of affected organisms in each concentration (including controls) and replicate

(2) Provide table of endpoints: LC50, NOAEC, Pass/Fail (as required in the applicable NPDES permit)

(3) Indicate statistical methods used to calculate endpoints

(4) Provide all physical and chemical data required by method

(5) Results of test(s) (LC50, NOAEC, Pass/Fail, etc.), report concentration-response relationship (definitive test only), report percent minimum significant difference (PMSD)

h. Conclusions and Recommendations

(1) Relationship between test endpoints and permit limits

(2) Action to be taken

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
WATER DIVISION

NPDES INDIVIDUAL PERMIT RATIONALE

Company Name: **ARP Production Company, LLC**

Facility Name: **Short Creek Coalbed Methane Project**

County: **Jefferson**

Permit Number: **AL0077429**

Prepared by: **Jasmine Martin**

Date: **June 25, 2015**

Receiving Waters: **Locust Fork of Black Warrior River, Valley Creek**

Permit Coverage: **Coalbed Methane Exploration, Production, and Associated Areas**

SIC Code: **1311**

The Department has made a tentative determination that the available information is adequate to support reissuance, transfer, and modification of this permit. This modification addresses the expansion of permit boundaries.

This proposed permit covers produced water and stormwater discharges from coalbed methane exploration, production, and associated areas.

This proposed permit authorizes treated discharges into a stream segment of Locust Fork of Black Warrior River that currently has a water quality classification of Fish and Wildlife (F&W), (ADEM Admin. Code r. 335-6-10-.09). This proposed permit authorizes treated discharges into a stream segment of Valley Creek that currently has a water quality classification of Swimming (S) and Fish and Wildlife (F&W), (ADEM Admin. Code r. 335-6-10-.09).

Full compliance with the proposed permit terms and conditions is expected to be protective of instream water quality and ensure consistency with applicable instream State water quality standards for the receiving stream.

Outfall 001 discharges to Valley Creek. The Instream Waste Concentration (IWC) for Outfall 001-1 calculated based on the average discharge flow (Q_w) from design maximum 30 day flow and the receiving stream's $7Q_{10}$ (seven-day 10-year low flow) is:

$$Instream\ Waste\ Concentration\ (IWC) = \frac{Q_w}{7Q_{10} + Q_w} = \frac{0.983\ cfs}{(8.76 + 0.983)cfs} = 10\%$$

Outfall 002-1 is proposed to discharge to Black Warrior River. Although conservative, an assumed IWC of 100% has been accepted by the Permittee in lieu of completing a CORMIX model for Outfall 002-1. The IWC for this outfall may be revisited in the future during a permit modification or reissuance if a CORMIX model is completed for the diffuser configuration.

The instream water quality standards for pH in streams classified as S/F&W is 6.0 – 8.5 s.u. per ADEM Admin. Code r. 335-6-10-.09. A discharge limitation for pH of 9.0 s.u. is imposed when enough dilution is considered to be available in-stream to allow for a discharge at 9.0 s.u. without endangering water quality, as is the for the discharge expected from these operations. However, the discharge shall not be allowed to cause the in-stream pH to deviate more than 1.0 s.u. from the normal or natural pH, nor be less than 6.0 s.u., nor greater than 8.5 s.u.

Total iron and total manganese limitations are based on Best Professional Judgment (BPJ). These limitations have been used in previous permits and are believed to be adequate to protect water quality. The oil and grease daily maximum limit of 15 mg/L has been shown to provide a reasonable assurance of compliance with ADEM Admin. Code r. 335-6-10-.06(b) which says "State waters shall be free from floating debris, oil...."

The previous version of this permit included limitations for 5-Day Biological Oxygen Demand (BOD_5) and Dissolved Oxygen (DO). A review of the data submitted to the Department in Discharge Monitoring Reports (DMR's) for Outfall 001-1 indicated that the effluent DO did not fall below water quality standards, and the effluent did not exhibit significant oxygen demand. Similar results for BOD_5 and DO are expected for Outfall 002-1. It is the opinion of the Department that the limitations for BOD_5 and the DO are no longer needed in the permit.

Instream monitoring for chlorides and a provision that the facility cease operations if the instream chloride concentration exceeded 190 mg/L was required in the previous permit for Outfall 001-1. However, a review of historical discharge data from this facility has shown that current operations consistently meet EPA's suggested instream chronic dissolved chloride criterion of 230 mg/L. A review of the weekly data submitted to the Department by the Permittee revealed that discharges from the facility did not cause the instream chloride concentration to exceed 190 mg/L during the last two years. With the highest reported value in the last two years for instream chloride concentration of 19.0 mg/L, it is reasonable to assume the instream chloride concentration will not exceed 190 mg/L in the future at either outfall.

Therefore, the instream monitoring for chlorides and the abovementioned provision was removed from this permit for Outfall 001-1. However, effluent monitoring requirements are proposed for dissolved chlorides so that the Department will have data available which may be used to develop future permit requirements.

Effluent and instream monitoring for dissolved chlorides and instream monitoring for specific conductance will be required in order to develop permit limitations in the future if needed to protect water quality for Outfall 002-1. Effluent and instream monitoring requirements for conductivity, which were required in the previous permit, have been removed due to the addition of specific conductance monitoring.

The applicant has submitted, in accordance with 40 CFR Part 122.21 and their NPDES permit application, a complete EPA Form 2C for Outfall 001-1 as part of this application. Discharges for Outfall 002-1 are expected to be similar in nature to those at outfall 001-1, therefore the submitted data was used in the RPA for both. The Department completed a reasonable potential analysis (RPA) of the discharge to determine whether or not pollutants in the treated effluent have the potential to contribute to excursions of

Alabama's in-stream water quality standards, based on the analytical data submitted by the Permittee for Outfall 001. The RPA indicates that there was no reasonable potential for in-stream water quality standards to be exceeded. The Department has also reviewed available data in ALAWADR, ADEM's water quality database, and found nothing to contradict the data submitted by the applicant.

If there is a reasonable potential that a pollutant present in the treated discharges from a facility could cause or contribute to a contravention of applicable State water quality standards above numeric or narrative criteria, 40 CFR §122 requires the Department to establish effluent limits using calculated water quality criterion, establish effluent limits on a case-by-case basis using criteria established by EPA, or establish effluent limits based on an indicator parameter. Based on available information, potential pollutants discharged from this facility, if discharged within the concentrations allowed by this permit, would not have a reasonable potential to cause or contribute to a contravention of applicable State water quality standards.

This permit proposes discharges with a flow rate of 0.983 cfs from Outfall 001-1with the receiving stream's 7Q10 of 8.76 cfs. The chronic toxicity testing is required at Outfall 001-1 using effluent diluted to the IWC using the $7Q_{10}$ flow (ADEM Admin. Code r. 335-6-6-.15(11)).

$$Instream\ Waste\ Concentration\ (IWC) = \frac{Q_w}{7Q_{10} + Q_w} = \frac{0.983\ cfs}{(8.76 + 0.983)cfs} = 10\%$$

Outfall 002-1 has no anticipated flow rate. However, chronic toxicity will also be required using an IWC of 100% with no allowance for dilution.

The chronic toxicity testing is required once per quarter. In addition, since limited information is available concerning the aquatic toxicity of the chemicals used in the stimulation fluids or the exact ratios and combinations of these chemicals, Part IV.B. of the permit requires the Permittee to conduct toxicity testing in conjunction with the discharge of any new stimulation fluids into the waste stream.

Pursuant to ADEM Admin. Code r. 335-6-6-.12(r) this Permit requires the Permittee to prepare, implement, and maintain a Spill Prevention Control and Countermeasures (SPCC) plan for all stored chemicals, fuels and/or stored pollutants that have the potential to discharge to a water of the State. This plan must meet the minimum engineering requirements as defined in 40 CFR Part 112 and must provide for secondary containment adequate to control a potential spill.

A Best Management Practices (BMP) Plan is required for the control of all nonpoint sources of pollution from all areas that are or may be associated with the Permittee's operations. This plan must be based on best available technology and include, but not be limited to, containment of process liquids and solids such that these do not present a potential for discharge; stormwater runoff associated with wellpad construction and maintenance; roads, borrow pits, and dirt or other material stockpiles; and water, wastewater, and other fluids acquisition operations that may be associated with the Permittee's operations. The Permittee is required to inspect a minimum of 4% of its facilities each month to ensure that their BMPs are effective in minimizing pollutants in stormwater runoff and are adequate for compliance with State water quality standards.

The applicant is not proposing discharges of pollutants to a water of the State with an approved Total Maximum Daily Load (TMDL).

The applicant is proposing discharges from Outfall 002-1 into a stream segment or other State water that is included on Alabama's current CWA §303(d) list. Locust Fork of Black Warrior River, a State water, is included on the current CWA §303(d) list for nutrients.

Monitoring and reporting of the nutrient-related parameters Total Phosphorus, Total Kjeldahl Nitrogen (TKN), Nitrite plus Nitrate-Nitrogen (NO_2+NO_3-N), and Ammonia (NH3-N) are imposed on Outfall 002-1 during the growing season. The monitoring is being required so that sufficient information will be available regarding the nutrient contribution from this point source, should it be necessary at some later time to impose additional nutrient limits on this discharge.

The applicant is proposing discharges of pollutants to an ADEM identified Tier 1 water. If the requirements of the proposed permit and pollution abatement plan are fully implemented, there is reasonable assurance that discharges from the facility will not contain pollutants of concern contributing to the Tier 1 condition, pollutants causing or contributing to the Tier 1 condition will not be present in the discharge at significant levels, and/or the facility will not discharge pollutants at levels that will cause or contribute to a violation of applicable State water quality standards in the Tier 1 water.

The proposed permit action does not authorize new or increased discharges of pollutants to receiving waters determined by the Department to be waters where the quality exceeds levels necessary to support propagation of fish, shellfish, and wildlife and to support recreation in and on the water (Tier 2). Therefore, the Antidegradation Policy as described by ADEM Admin Code 335-6-10.04 and .12 does not apply.

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (ADEM)
FIELD OPERATIONS DIVISION NPDES INDIVIDUAL PERMIT APPLICATION

COALBED METHANE OPERATIONS – EXPLORATION, DEVELOPMENT, OPERATION, CLOSURE, AND ASSOCIATED ACTIVITIES AND AREAS

COMPLETE ALL QUESTIONS. RESPOND WITH "N/A" AS APPROPRIATE. INCOMPLETE OR INCORRECT ANSWERS OR MISSING SIGNATURES WILL DELAY PROCESSING. ATTACH ADDITIONAL COMMENTS OR INFORMATION AS NEEDED. IF SPACE IS INSUFFICIENT, CONTINUE ON AN ATTACHED SHEET(S) AS NECESSARY. COMMENCEMENT OF ACTIVITIES APPLIED FOR AS DETAILED IN THIS APPLICATION ARE NOT AUTHORIZED UNTIL PERMIT COVERAGE HAS BEEN ISSUED BY THE DEPARTMENT.

PLEASE TYPE OR PRINT IN INK ONLY.

I. APPLICANT INFORMATION Initial Issuance: ☐ Major Modification: ☐ Reissuance: ☒ NPDES **AL 0077429**

Reissuance & Modification: ☐ Minor Modification: ☐ Transfer. ☐ Voluntary Revocation: ☐ Other: _____

Company Name **ARP Production Company, LLC**			Facility Name **Short Creek Coalbed Methane Project**		
Responsible Official and Title **John W. Crook, VP EHS**			Facility Contact and Title **Billy Stacy, Operations Manager**		
Mailing Address of Applicant **1000 Commerce Drive, 4th Floor**			Facility Contact Mailing Address **3165 Dublin Lane**		
City **Pittsburgh**	State **PA**	Zip **15275**	City **Bessemer**	State **AL**	Zip **35022**
Business Phone Number **(412) 489-0311**	Fax Number		Facility Contact Phone Number **(205)481-8061 –Ofc, (205)532-2915 –Cell**		
Responsible Official Street/Physical Address & Phone Number **1000 Commerce Driver, 4th Floor, Pittsburgh, PA 15275 (412) 200-7575**			Email Address **jcrook@atlasenergy.com**		
Registered Agent Name, Address, & Phone Number **CT Corporation System, 2 N. Jackson Street, Suite 605, Montgomery, AL 36104**					

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Identify the name, title/position, and the address (List residence address if applicant/permittee is not registered with the Alabama Secretary of State) of every officer, general partner, LLP partner, LLC member, investor, director, or person performing a function similar to a director, of the applicant, and each person who is the record or beneficial owner of 10 percent or more of any class of voting stock of the applicant, or any other responsible official(s) of the applicant with legal or decision making responsibility or authority for the facility:

Name | Title/Position | Address (PO Box not acceptable)

SEE ATTACHED ADDITIONAL INFORMATION

II. OFFICER INFORMATION

Name of each corporation, partnership, association, and single proprietorship (other than applicant) having an Alabama NPDES permit at any time during the sixty (60) month period immediately preceding the date on which this form is signed for which any individual identified in Item I is or was an officer, general partner, LLP partner, LLC member, investor, director, or individual performing a function similar to a director, or principal (10% or more) stockholder: **NONE**

Name of corporation, partnership, association, or single proprietorship	Name of individual (from Item I)	Title/position in corporation, partnership, association, or single proprietorship
N/A		

III. PROPOSED SCHEDULE

Anticipated Activity schedule: **Commencement date: 2001, Projected 30 year operation span, through year 2031**

Predicted total area of new or proposed disturbance in acres: Total area in acres: **Permit Area: 44,500 Ac +/- Disturbed area in acres: 3,160 ac/yr (See Attached Narrative)**

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IV. LEGAL STRUCTURE OF APPLICANT

☐ Corporation ☐ Association ☐ Individual ☐ Single Proprietorship ☐ Partnership ☐ LLP ☒ LLC

☐ Government Agency _____ ☒ Other _____ ☐ Other _____

State where operator/owner incorporated or based: **Delaware**

☒ Yes ☐ No Is the applicant also the owner of the facility? If "No", list owner(s): _____

☒ Yes ☐ No If not an Individual, Single Proprietorship, or partnership, applicant is properly registered with the Alabama Secretary of State's office. If "No", please explain.

Parent Corporation and Subsidiary Corporations of Applicant, if any: **Not applicable – No parent/subsidiaries**

☒ Yes ☐ No Land owner(s) information is current and is attached and/or is available for review or submittal to the Department, if requested. If "No", please explain:

The Project has multiple land owners that are subject to change without notice. A list of land owners will be provided upon request.

☐ Yes ☒ No Sub-contractor(s) and secondary operator(s) information is information is current and is attached and/or is available for review or submittal to the Department, if requested. If "No", please explain:

ARP Production Co. is the operator of record, w/various subcontractors. A list of current subcontractors will be provided upon request.

V. COMPLIANCE HISTORY

Has the applicant ever had (If the response to any item is yes, attach a letter of explanation.):

	Yes	No	
(a)	☐	☒	an Alabama NPDES-SID-UIC permit suspended or terminated?
(b)	☐	☒	an Alabama or federal environmental permit suspended/terminated?
(c)	☐	☒	an Alabama State Oil & Gas Board permit or other approval suspended or terminated?
(d)	☐	☒	an Alabama or federal performance/environmental bond, or similar security deposited in lieu of a bond, or portion thereof, forfeited?

Identify every Warning Letter, Notice of Violation (NOV), Administrative Action, Directive, or litigation filed by ADEM or EPA during the three year (36 months) period preceding the date on which this form is signed issued to the applicant, parent corporation, subsidiary, general partner, LLP partner, or LLC Member. Indicate the date of issuance, briefly describe alleged violations, list actions (if any) to abate alleged violations, and indicate date of final resolution:

None

VI. OTHER PERMITS/AUTHORIZATIONS

1) List any other NPDES, State Oil & Gas Board (OGB) Class II Injection wells , or other environmental permits, authorizations, or certifications that have been applied for or issued within the State by ADEM, EPA, or other agency, to the applicant, parent corporation, subsidiary, or LLC member for this facility whether presently effective, expired, suspended, or revoked (include permit numbers):

NPDES AL0077429 (This Permit), SID IU393700861 to GeoMet Operating Co. (Expired), Jefferson Co. Air Div. Air Op. Permits 4-07-0491-004-01, 4-07-0545-001-01, 4-07-0545-003-01, & 4-07-0545-004-01, Alabama Oil & Gas Board Well Permits Available upon request.

2) ☒ Yes ☐ No A complete list of any other NPDES or other ADEM permits, authorizations, or certifications that have been applied for or issued within the State by ADEM, EPA, or other agency, to the applicant, parent corporation, subsidiary, or LLC member for other facilities whether presently effective, expired, suspended, or revoked (include permit numbers) is attached and/or is available for review or submittal to the Department, if requested. If "No", please explain:

See Attached Additional Information

3) ☒ Yes ☐ No A complete list of any other OGB permits, authorizations, or certifications that have been applied for or issued within the State to the applicant, parent corporation, subsidiary, or LLC member whether presently effective, expired, suspended, or revoked (include OGB permit numbers) is attached and/or is available for review or submittal to the Department, if requested. If "No", please explain:

All applicable Oil and Gas Bd. permits have been or will be applied for & issued prior to drilling & completion work on the project, are a matter of public record, and are or will be available for review if requested.

VII. ACTIVITY DESCRIPTION & INFORMATION

Township(s), Range(s), Section(s): **Itemized in attached additional information** County(s) **Jefferson**

Directions To Field Office or Site: **From Downtown Birmingham, go west on I-59-20 to Alabama Hwy 269. Go north on Hwy 269 through the Town of Sylvan Springs. Continue approximately 2 miles and the Short Creek Field office is located on the left.**

	Yes	No	Is/will this facility:		Yes	No	
(a)	☒	☐	an existing facility which currently results in discharges to State waters? **See Attached Additional Info.**	(b)	☐	☒	be located within any 100-year flood plain?
(c)	☐	☒	a proposed facility which will result in a discharge to State waters?	(d)	☐	☒	discharge to Municipal Separate Storm Sewer?
(e)	☐	☒	discharge to waters of or be located in the Coastal Zone?	(f)	☐	☒	need/have ADEM UIC permit coverage?
(g)	☐	☒	be located on Indian/historically significant lands?	(h)	☐	☒	need/have ADEM SID permit coverage?
(i)	☒	☐	need/have State O&G Board permit coverage?	(j)	☐	☒	need/have ADIR permit coverage?
(k)	☐	☒	generate, treat, store, or dispose hazardous/toxic waste as defined by applicable State or federal rules ? If "yes", attach explanation.				
(l)	☐	☒	be located in or discharge to a Public Water Supply (PWS) Watershed(s) or be located within ½ mile of any PWS well?				

VIII. PROPOSED ACTIVITY TO BE CONDUCTED - Check All that apply

Type(s) of activity presently conducted at applicant's existing facility or proposed to be conducted at proposed facility (check each one that applies):

☒ CBM exploration/production (drilling, fracturing, etc.) ☒ Surface water withdrawal * ☒ Land application of temporary pit waters

☐ Conventional O&G exploration ☒ Gob well development ☒ Creek/stream pipeline or road crossings

☒ Chemicals used in process or wastewater treatment (coagulant, biocide, etc.) ☒ Construction related temporary borrow pits/areas

☐ Onsite construction/mining waste/debris/equipment storing/disposing ☒ Construction Excavation

☒ Grading, clearing, grubbing, etc. ☒ Reclamation of disturbed areas ☐ Waterbody relocation or other alteration

☐ Other beneficiation/manufacturing operations. If "Yes", please describe: _____

☐ Other (Describe): _____ ☐ Other (Describe): _____

Primary SIC Code ____**1311**_____ Description_**Crude Natural Gas Extraction, Operation of Oilfield Properties**_____

Secondary SIC Code _____ Description_____

Narrative Description: __**Recovery and sale of natural gas from coalbed methane operations**_____

of the Activity _____

*** Note: Tested clean surface water sources may be used as process water under some conditions.**

IX. TOPOGRAPHIC OR EQUIVALENT FACILITY MAP SUBMITTAL

Attach to this application a 7.5 minute series U.S.G.S. topographic map(s), equivalent map(s), and if necessary other maps or scale drawings, no larger than, or folded to a size of 8.5 by 11 inches (several pages may be necessary) of the area extending to at least one mile beyond property boundaries. The topographic, equivalent map(s), and/or other maps or scale drawings must include a caption indicating the name of the topographic map, name of the applicant, facility name, county, and township, range, & section(s) where the facility is located. Unless approved in advance by the Department, the topographic or equivalent map(s), at a minimum, must show:

(a) an outline of legal boundary of entire facility	(b) compressor stations
(c) all existing and proposed disturbed areas	(d) facility gas and water pipelines
(e) proposed and/or existing discharge points	(f) wellpads and service roads
(g) perennial, intermittent, and ephemeral streams	(h) lakes, springs, water wells, wetlands
(i) all known facility dirt/improved access roads	(j) all surrounding unimproved/improved roads
(k) high-tension power lines and railroad tracks	(l) buildings and structures, including fuel/water tanks
(m) contour lines, township-range-section lines	(n) drainage patterns, swales, washes
(o) all drainage conveyance/treatment structures (ditches, berms, etc.)	(p) location of any waste storage/disposal areas
(q) Other information relevant to facility or operation	(r) any other pertinent or significant structure/feature

[symbols identified in Theodore D. Steger, Topographic Maps, U.S. Interior Dept., Geological Survey, 1978 (No. 0--274--961), as updated/revised]

X. FUEL - CHEMICAL HANDLING, STORAGE & SPILL PREVENTION CONTROL & COUNTERMEASURES (SPCC) PLAN

Will fuels, chemicals, compounds, wastewater, etc. be used or stored onsite? ☐ No ☒ Yes, information detailed in attached SPCC plan

☐ Yes, detailed below: **See Attached SPCC Plan. Tank list will be regularly updated in the SPCC plan**

Capacity	Contents	Capacity	Contents	Capacity	Contents
_____ gallons	_____	_____ gallons	_____	_____ gallons	_____
_____ gallons	_____	_____ gallons	_____	_____ gallons	_____

If "Yes", a detailed SPCC Plan with acceptable format/content, including diagrams, must be attached to application according to ADEM Admin. Code R. 335-6-6-.12(r). Unless waived in writing by the Department on a programmatic, categorical, or individual compound/chemical basis or otherwise made available in a manner acceptable to the Department, attach Material Safety Data Sheets (MSDS) for chemicals/compounds used or proposed to be used at the facility.

XI. RECEIVING WATERS

List the requested permit Action for each outfall (issue, reissue, add, delete, move, etc.), Outfall Designation including noting "E" for existing and "P" for proposed, name of receiving water(s), ADEM water use classification (WUC) for the receiving water, latitude and longitude (to seconds) of location(s) that of the diffuser or discharge point, if the discharges contains frac or other process waters, outfall discharges to a Tier I water, an ADEM listed CWA Section 303(d) waterbody segment, or if a TMDL has been finalized for the receiving water, at the time of application submittal.

Action	Outfall E/P	Receiving Water	ADEM WUC	Latitude	Longitude	Process water (Y/N)	303(d) Segment (Y/N)	Tier I Water (Y/N)	Final TMDL (Y/N)
Reissue*	**001E**	**Valley Creek (Formerly AL0067351)**	**A&I**	**33° 27' 57.8"**	**87°07' 12.23**	**N**	**N**	**N**	**N**
Reissue	**002E**	**Locust Fork of Black Warrior River**	**F&W, PWS, S**	**33° 34' 33.88"**	**87°4' 57.09"**	**N**	**N**	**N**	**N**

*** Note: Existing Oak Grove Degas Project Outfall. Oak Grove permit (outfall/facility) to be combined with the Short Creek permit and Oak Grove terminated.**

XII. DISCHARGE CHARACTERIZATION

☒ Yes ☐ No A Complete and correct EPA form 2C and/or 2D is attached for each proposed and/or existing outfall. If "No", please explain: **EPA Form 2C is attached**

XIII. INFORMATION

Contact the Department prior to submittal with any questions or to request acceptable alternate content/format. Be advised that you are not authorized to commence regulated activity until this application can be processed, publicly noticed, and approval to proceed is received in writing from the Department.

EPA Form(s) 1 and 2F need not be submitted unless specifically required by the Department. EPA Form(s) 2C and/or 2D are required to be submitted. Other than those proposed activities described in this application there are no other potential pollutants, processes, process wastewaters or activities that require NPDES permit coverage. Permit coverage will allow for use of captive borrow areas used solely for the permitted operation. Coverage under the Department's NPDES Construction Stormwater Permit Program allows for short-lived, construction related, limited removal or relocation of fill material offsite, and does not provide coverage for mining activities described in ADEM Admin. Code Ch. 335-6-9 that will equal or exceed 5 un-reclaimed acres. I understand by submission of this application, that I am advised to contact 1) the Alabama State Oil & Gas Board, 2) the Alabama Historical Commission for requirements related to any potential historic or culturally significant sites, 3) the Alabama Department of Conservation and Natural Resources (ADCNR) for requirements related to potential presence of threatened/endangered species, and 4) the US Army Corps of Engineers, Mobile or Nashville Districts, if this project could cause fill to be placed in federal waters/wetlands or could interfere with navigation.

Additional information is available upon request. Complete this form, attach additional information as necessary, enclose appropriate processing fee (including Greenfield fee if applicable) and send to:

Field Operations Division – MNPS
Alabama Department of Environmental Management
Phone: (334) 394-4311
Fax: (334) 394-4326

PO Box 301463
Montgomery, AL 36130-1463

Email: mnps@adem.state.al.us

1400 Coliseum Boulevard
Montgomery, AL 36110-2059

Microsoft WORD

Internet Web Page: www.adem.state.al.us

XIV. PROPOSED NEW OR INCREASED DISCHARGES

Pursuant to ADEM Admin. Code Ch. 335-6-10-.12(9), responses to the following questions must be provided by the applicant requesting NPDES permit coverage for new or expanded discharges of pollutant(s) to Tier 2 waters (except discharges eligible for coverage under general permits). As part of the permit application review process, the Department is required to determine, based on the applicant's demonstration, that the proposed new or increased discharge to Tier 2 waters is necessary for important economic or social development in the area in which the waters are located.

☐ Yes. New/increased discharges of pollutant(s) or discharge locations to Tier 2 waters are proposed. Complete items 1 – 6 below.

☒ No. New/increased discharges of pollutants(s) or discharge locations to Tier 2 waters are not proposed.

If "Yes", applicant is requesting issuance, modification, or reissuance & modification of permit coverage for new or expanded discharges of pollutant(s) not previously permitted. Complete this Item, Item XV, and Item XVI as necessary. Attach additional sheets/documentation and supporting information as needed.

1) What environmental or public health problem will the discharge be correcting? _____

2) How much will the discharger be increasing employment (at its existing facility or as a result of locating a new facility)?

3) How much reduction in employment will the discharger be avoiding? _____

4) How much additional state or local taxes will the discharger be paying? _____

5) What public service to the community will the discharger be providing? _____

6) What economic or social benefit will the discharger be providing to the community? _____

XV. ALTERNATIVES ANALYSIS – ADEM Form 311 3/02

Pursuant to ADEM Admin. Code Ch. 335-6-10, an evaluation of the discharge alternatives identified below has been completed and the following conclusions, as indicated, were reached. All proposed new or expanded discharges of pollutant(s) covered by the Individual NPDES permitting program are subject to the provisions of the antidegradation policy. As part of the permit application review process, the Department is required to determine, based on the applicant's demonstration, that the proposed new or increased discharge to Tier 2 waters is necessary for important economic or social development in the area in which the waters are located. As a part of this demonstration, a registered professional engineer (PE) licensed to practice in the State of Alabama must complete an evaluation of the discharge alternatives, to include calculation of total annualized project costs (Item XVI) for each technically feasible alternative. Technically feasible alternatives with total annualized pollution control project costs that are less than 110% of the preferred alternative total annualized pollution control project costs for the Tier 2 new or increased discharge proposal are considered viable alternatives. **Supporting documentation is attached, referenced, or otherwise handled as appropriate.**

Alternative	Viable	Non-Viable	Reason/Rationale For Indicating Non-Viable
1) Treatment/Discharge Proposed In This Application	X		**Proposed Plan**
2) Land Application		X	**Not approved for generated volumes. TDS, volume too high ***
3) Pretreatment/Discharge to POTW By SID Permit		X	**No suitable POTW in area to handle produced volumes**
4) Relocation of Discharge		X	**No other streams in the area will accept the waste volumes**
5) Reuse/Recycle – Pollution Prevention		X	**Reuse/Recycle technically non-viable. No current options available**
6) Other Process/Treatment Alternatives		X	**Evaluation has shown proposed plan to be most technically and environmentally feasible option.**
7) Underground Injection By UIC Permit		X	**No viable formation to accept discharge flows.**
8) Other Project Specific Alternative(s) Identified By the Applicant Or The ADEM			
9) Other Project Specific Alternative(s) Identified By the Applicant Or The ADEM			

COMMENTS: _____*** Item 2 above – Though Land Application is a viable disposal option on a one time basis for the fluids generated during drilling and completions operations, land application is not a viable method for the disposal of the produced water from the subject project due to relatively large volumes and relatively high chlorides concentrations.**

XVI. CALCULATION OF TOTAL ANNUALIZED PROJECT COSTS FOR PRIVATE SECTOR PROJECTS - ADEM Form 313 3/02
(ADEM Form 312 3/02 - Public Sector Project is available upon request)

This item must be completed for each technically feasible alternative evaluated in Item XV. **Copy, complete, and attach additional blocks/sheets and supporting information as needed.**

Capital Costs of pollution control project to be expended or financed by applicant (Supplied by applicant)	$_1,500,000__(1)
Interest Rate for Financing (Expressed as a decimal)	____0.05_____(i)
Time Period of Financing (Assume 10 years *)	____10 years___(n)
Annualization Factor ** = $\frac{i}{(1+i)^{10}-1} + i$ i = Interest Rate	_____0.13____(2)
Annualized Capital Cost [Calculate: (1) x (2)]	$___194,257__(3)
Annual Cost of Operation & Maintenance (including but not limited to monitoring, inspection, permitting fees, waste disposal charges, repair, administration & replacement) ***	$___100,000__(4)
Total Annual Cost of Pollution Control Project [(3) + (4)]	**$___294,257___(5)**

* While actual payback schedules may differ across projects and companies, assume equal annual payments over a 10-year period for consistency in comparing projects.

** Or refer to Appendix B (application information) for calculated annualization factors.

*** For recurring costs that occur less frequently than once a year, pro rate the cost over the relevant number of years (e.g., for pumps replaced once every three years, include one-third of the cost in each year).

XVII. POLLUTION ABATEMENT PLAN (PAP) INFORMATION

N/A – No Pollution Abatement Plan Required/Submitted				
#	Y	N	N/A	
1				A comprehensive, detailed PAP Plan and/or applicable component plans with format/content acceptable to ADEM is attached.
2				Procedures to inspect/evaluate all treatment/storage/discharge facilities/systems at least annually by a professional engineer registered in the State of Alabama (PE), or a qualified professional (QP) under the direct supervision of the PE are documented, implemented, regularly evaluated, and updated as necessary.
3				Procedures to inspect/evaluate all treatment/storage/discharge facilities/systems for potential discharges to groundwater at least annually by a PE or a QP under the direct supervision of the PE are documented, implemented, regularly evaluated, and updated as necessary.
4				Procedures to inspect/evaluate all pipelines, wellpads, compressor stations, diffuser or other discharge structures, monitoring systems, and other structures/facilities as required by the permit, by PE, or QP under the direct supervision of the PE are documented, implemented, regularly evaluated, and updated as necessary.
5				Automated and/or manual leak detection program procedures are documented, implemented, regularly evaluated, and updated as necessary.
6				Construction stormwater management plan that meets the BMP requirements of ADEM Admin. Code Ch. 335-6-12 is documented, implemented, regularly evaluated, and updated as necessary.
7				Spill prevention control and countermeasures (SPCC) management plan is documented, implemented, regularly evaluated, and updated as necessary.
8				Plan detailing procedures for one-time land application wastewater from temporary holding pits related to well construction, completion, and maintenance have been documented, implemented, regularly evaluated, and updated as necessary.
9				Sample analyses, toxicity testing, and other laboratory operations (whether conducted by the operator or a contract lab) have been and are regularly evaluated by a Qualified Credentialed Professional (QCP).
10				Procedures to ensure that pollutants in stormwater runoff from all areas of operation and/or disturbance is effectively controlled are documented, implemented, regularly evaluated, and updated as necessary.
11				Procedures to ensure that outer slopes of access roads, related structures, and all ROWs vegetated or otherwise stabilized is documented, implemented, regularly evaluated, and updated as necessary.
12				Detailed plans/drawings/records maintained for all structures, facilities, stream crossings, etc.
13				The applicant has completed the surface water discharge alternatives analysis and has retained supporting documentation, including annualized costs for each technically feasible alternative available for review upon request.
14				Records of all plans, maps, activities, or other identified items are available for review or submittal to ADEM upon request.

XVIII. POLLUTION ABATEMENT PLAN (PAP) REVIEW CHECKLIST

Y	N	N/A	General Information
			PE seal and/or license #
			Name and address of operator
			Name/address of owner, if different
			Legal description of facility
			Number of employees
			Hours of operation
			Water supply and disposition
			Design Plans
			Diffuser
			Storage or treatment ponds
			SPCC
			Maintenance Plans/Schedules
			Pre-treatment measures
			Alarm systems
			Schedule for maintenance/closure of treatment/storage/discharge structures
			Narrative of Operations
			Processes described
			Products described
			Identity, MSDS sheets, composition of all biocides, inhibitors, chemicals, etc
			Treatment systems
			Hydrostatic test water(s) management

Y	N	N/A	Topographic or Equivalent Facility Map
			Project location
			Size and location of borrow areas/pits
			Location of all treatment facilities
			Location of proposed/existing discharge points
			Location of adjacent streams
			Proposed and existing well sites
			Water & gas pipelines, compressor stations
			Access roads
			Generalized Schematic Diagram
			Wellpads
			Pipelines
			Collection System
			Treatment System
			Diffuser design and discharge system capacity
			Other:
			Methods for minimizing NPS discharges
			Closure plans – well plug & abandon
			PE rationale(s) for any alternate standards, designs or plans
			Measures for minimizing impacts to streams - buffer strips, berms, etc.
			All SID permits associated with facility
			Pollution Prevention (P2) efforts

IDENTIFY AND PROVIDE/ATTACH DETAILED EXPLANATION FOR ANY "N" OR "N/A" RESPONSE(s):

No PAP required.

XIX. PROFESSIONAL ENGINEER (PE) CERTIFICATION

A detailed, comprehensive Pollution Abatement/Prevention Plan (PAP) must be prepared, signed, and certified by a professional engineer (PE), registered in the State of Alabama as follows:

"Except for the pages, portions, maps, plans, etc. contained in this application that are specifically certified by a professional engineer registered in the state of Alabama, I certify on behalf of the applicant, that I have completed an evaluation of discharge alternatives (Item XV) for any proposed new or increased discharges of pollutant(s) to Tier 2 waters and reached the conclusions indicated. I certify under penalty of law that technical information and data contained in this application, and a comprehensive PAP Plan including any attached SPCC plan, maps, engineering designs, etc., for the prevention and minimization of all sources of pollution in stormwater and authorized related process wastewater runoff has been prepared under my supervision for this facility utilizing effective, good engineering and pollution control practices and in accordance with the provisions of ADEM Admin. Code Division 335-6. If the PAP plan is properly implemented and maintained by the permittee, discharges of pollutants can reasonably be expected to be effectively minimized to the maximum extent practicable and according to permit discharge limitations and other permit requirements. The applicant has been advised that appropriate pollution abatement/prevention facilities and structural & nonstructural management practices or Department approved equivalent management practices as detailed in the PAP plan must be fully implemented and regularly maintained as needed at the facility in accordance with good sediment, erosion, and other pollution control practices, permit requirements, and other ADEM requirements to ensure protection of groundwater and surface water quality."

Environmental Testing & Engineering

Address **P.O. Box 715, Northport, AL 35476** PE Registration # **12998**

Name and Title (type or print) **John K. Haddock, President** Phone Number **(205)339-0216**

Signature John K. Haddock Date Signed 5/20/15

XX. RESPONSIBLE OFFICIAL SIGNATURE

This application must be signed by a Responsible Official of the applicant pursuant to ADEM Admin. Code R. 335-6-6-.09 who has overall responsibility for the operation of the facility.

"I certify under penalty of law that this document, including technical information and data, the PAP plan, including any SPCC plan, maps, engineering designs, and all other attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the PE and other person or persons under my supervision who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine or imprisonment for knowing violations.

A comprehensive PAP Plan to prevent and minimize discharges of pollution to the maximum extent practicable has been prepared at my direction by a PE for this facility utilizing effective, good engineering and pollution control practices and in accordance with the provisions of ADEM Admin. Code Division 335-6 and information contained in this application, including any attachments. I understand that regular inspections must be performed by, or under the direct supervision of, a PE and all appropriate pollution abatement/prevention facilities and structural & nonstructural management practices or Department approved equivalent management practices identified by the PE must be fully implemented prior to and concurrent with commencement of regulated activities and regularly maintained as needed at the facility in accordance with good sediment, erosion, and other pollution control practices and ADEM requirements. I understand that the PAP plan must be fully implemented and regularly maintained so that discharges of pollutants can reasonably be expected to be effectively minimized to the maximum extent practicable and according to permit discharge limitations and other requirements to ensure protection of groundwater and surface water quality. I understand that failure to fully implement and regularly maintain required management practices for the protection of groundwater and surface water quality may subject the permittee to appropriate enforcement action. I understand that applicable records of data and information used to complete this application and any supplemental information submitted as part of this application must be retained pursuant to applicable requirements of ADEM Admin. Code Ch. 335-6.

I certify that this form has not been altered, and if copied, reproduced, or completed electronically, is consistent in format and identical in content to the ADEM approved form.

I further certify that the discharges described in this application have been tested or evaluated for the presence of non-stormwater discharges and any non-mining associated beneficiation/process pollutants and wastewaters have been fully identified."

Name (type or print) **John W. Crook** Official Title **V.P., EH&S**

Signature John W. Crook Date Signed 5/20/15

ADDITIONAL INFORMATION
ADEM INDIVIDUAL NPDES PERMIT APPLICATION FORM
(ADEM FORM 549)

The following is additional information as required in the above-referenced form.

ITEM I – CORPORATE OFFICIALS

ARP PRODUCTION COMPANY, LLC - LIST OF CORPORATE OFFICIALS

Name	Title/Position	Address
Daniel Herz	CEO	1000 Commerce Drive, 4th Floor, Pittsburgh, PA 15275
Mark D. Schumacher	President	1000 Commerce Drive, 4th Floor, Pittsburgh, PA 15275
Dave Leopold	COO	1000 Commerce Drive, 4th Floor, Pittsburgh, PA 15275
William Ulrich	Vice President	1000 Commerce Drive, 4th Floor, Pittsburgh, PA 15275
Sean P. McGrath	SFO	1000 Commerce Drive, 4th Floor, Pittsburgh, PA 15275
Jeffrey M. Slotterback	CAO	1000 Commerce Drive, 4th Floor, Pittsburgh, PA 15275
Lisa Washington	CLO & Secretary	1000 Commerce Drive, 4th Floor, Pittsburgh, PA 15275
Joel Heiser	General Counsel & Asst. Secretary	1000 Commerce Drive, 4th Floor, Pittsburgh, PA 15275
Julie H. Wilson	Assistant Secretary	1000 Commerce Drive, 4th Floor, Pittsburgh, PA 15275

ITEM IV – COMPLIANCE HISTORY

There have been no violations or incidents in the past 36 months regarding regulatory compliance with any of the Black Warrior Basin permits held by the applicant:

ITEM VI – OTHER PERMITS

Lost Creek CBM NPDES, AL00777763 (Renewal Application Submitted, Under Regulatory Review)
Oak Grove CBM NPDES, AL0067351 (Renewal Application Submitted, Subject of this update)
White Oak Creek CBM, AL0068390 (Renewal Application Submitted, Under Regulatory Review)
White Oak Creek CBM, Air Operating Permit (Rotary Screw Compressor), Current
Alabama Oil and Gas Board Well Permits Available on Request

ITEM VII – PROJECT LOCATION

The project (Permit Boundary), covering an area of approximately 45,000 acres, lies in the following areas in Jefferson County, Alabama:

Township 16 S:
Range 5 W, Sections 35, 36

Township 17 S:
Range 4 W, Sections 6, 7, 18, 19
Range 5 W, Sections 1 – 36
Range 6 W, Sections 1, 10 - 36
Range 7 W, Sections 23 - 26, 35, 36

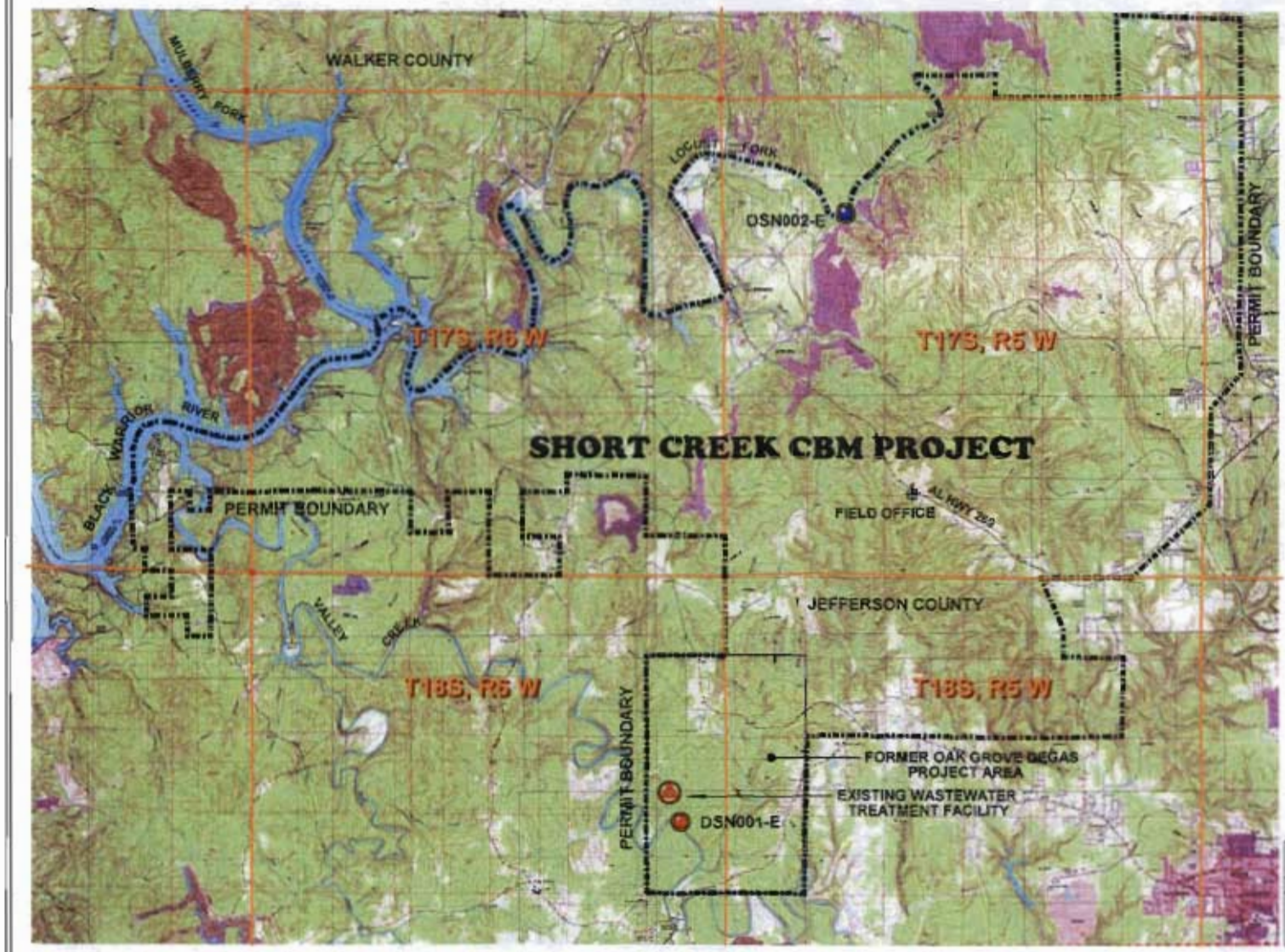
Township 18 S:
Range 5 W, Sections 2 – 11*, 18*, 19*
Range 6 W, Sections 1, 3, 7, 12*, 13*, 24*
Range 7 W, Sections 1,2

* Include sections from the former Oak Grove Degas project area.

(a) The facility is an existing facility which currently discharges under NPDES Discharge Permit AL0077429 to El Paso E&P Company, LP's Oak Grove Wastewater Treatment Facility (AL0067351). The updated permit application combines the two permits and the wastewater treatment facility will become a part of the Short Creek project and will be known as the Short Creek Wastewater Treatment Facility.
(b) Though parts of the permit area are located within a 100 year flood zone, no actual facilities (well pads, treatment facilities, compressor stations, etc) will be located within the zone.
(c) The facility is filing for renewal of the existing NPDES Permit

ITEM X - SPCC

The facility will use and store liquid chemicals and fuels and waste materials on site and a Spill Prevention, Control, and Countermeasure Plan has been prepared and will be submitted under separate cover. Some fuels will be used by subcontractors on the site and all contractors will be apprised of the company SPCC requirements. An inventory of stored chemicals, fuels, wastewater, and controlled fluids is included in the SPCC and BMP plans.



EXISTING DISCHARGE POINT

PROPOSED FUTURE DISCHARGE POINT

EXISTING WASTEWATER TREATMENT FACILITY

PERMIT BOUNDARY

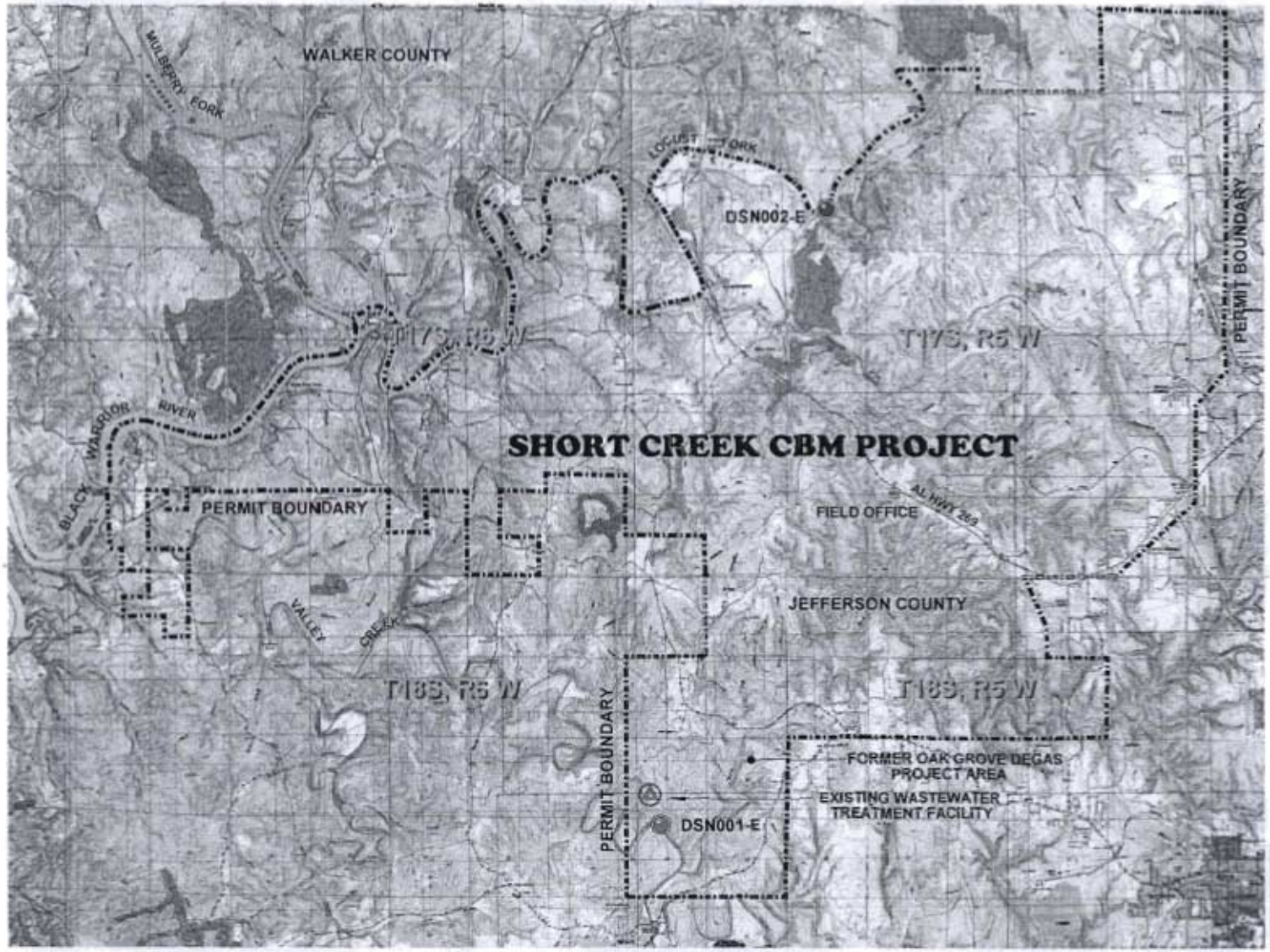
Atlas Resource Partners, L.P

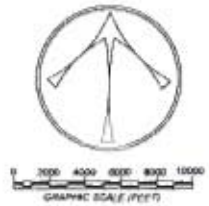
SHORT CREEK COALBED METHANE PROJECT
BLACK WARRIOR BASIN
JEFFERSON COUNTY, AL

ENVIRONMENTAL TESTING & ENGINEERING

DATE: 5/1/15

ARP PRODUCTION COMPANY, LLC
SHORT CREEK CBM PROJECT
NPDES PERMIT MAP





- EXISTING DISCHARGE POINT
- PROPOSED FUTURE DISCHARGE POINT
- EXISTING WASTEWATER TREATMENT FACILITY
- PERMIT BOUNDARY

Atlas Resource Partners, L.P.

SHORT CREEK COALBED METHANE PROJECT
BLACK WARRIOR BASIN
JEFFERSON COUNTY, AL

ENVIRONMENTAL TESTING & ENGINEERING
(A Division of Engineering Plus, Inc.)

DATE 10/1/15

ARP PRODUCTION COMPANY, LLC
SHORT CREEK CBM PROJECT
NPDES PERMIT MAP

ARP PRODUCTION COMPANY,LLC
SHORT CREEK COALBED METHANE PROJECT
JEFFERSON COUNTY, ALABAMA
UPDATE/MODIFICATION OF NPDES DISCHARGE PERMIT APPLICATION
PERMIT NUMBER AL0077429, ORIGINALLY SUBMITTED
NOVEMBER 18, 2010

MAY 19, 2015

ARP Production Company, LLC (ARP) owns and operates the Short Creek Coalbed Methane Project in Jefferson County, Alabama. The project has 274 coalbed methane wells on a permit area of approximately 40,000 acres. The company acquired the Alabama assets from EP Energy, LP in 2013 and submitted permit transfer requests immediately upon acquisition of the assets. The Short Creek project, originally owned and operated by El Paso E&P Company, LP, began operating in the early 2000's, discharging produced water under a State Indirect Discharge permit to the Oak Grove Wastewater Treatment facility, then owned by GeoMet Operating Company, Inc. In the mid-2000's natural gas production in the Oak Grove project, with only 27 wells, began to decline due to the advancement of underground mining operations through the project area with wells being plugged and abandoned as the mine progressed through. Eventually operation of the project became uneconomical and El Paso acquired the project and assumed the permit solely for use of the wastewater treatment facility and discharge point. Changes in the permit requirements associated with stormwater related issues resulted in the Short Creek project applying for and receiving a NPDES permit rather than a SID permit and the two projects maintained individual permits with a direct discharge to the present.

Since 2009 ADEM has been reviewing and modifying the coalbed methane NPDES permitting process. The changes that have taken place since the start of this review have resulted in coalbed methane NPDES discharge permits that were up for renewal being placed on administrative extension. The Oak Grove NPDES discharge permit (AL0067351) expired on 6/30/10 and the Short Creek permit (AL0077429) expired on 5/31/11. The applications for renewal of the permits were submitted within the required 180 day submittal period (11/18/09 for Oak Grove and 11/18/10 for Short Creek). Though it would have been prudent to combine the Short Creek and Oak Grove permits in the past, the permit renewal dates did not coincide and individual permit applications were submitted. Now that the permits are up for renewal at the same time, ARP has decided to combine the two permits into one, under the Short Creek permit, and to allow the Oak Grove permit to expire. A request for termination of the Oak Grove permit will be submitted with documentation and certification of plugging and abandonment of the Oak Grove wells according to Alabama Oil and Gas Board regulations and closure of the Oak Grove project infrastructure.

The resulting single discharge permit (Short Creek CBM Project, permit AL0077429) will include approximately 45,000 acres with the same 274 coalbed methane wells. Produced water is transferred through an existing transfer pipeline and existing rights of

way to the former Oak Grove Wastewater Treatment Facility (now the Short Creek Wastewater Treatment Facility) and is discharged through Short Creek DSN-001E. The Short Creek project also has another discharge point, DSN-002E located on the Locust Fork of the Black Warrior River, that has not been constructed but remains in place in case of future water production increases in the northern project area. The original application included another proposed outfall on Valley Creek that will now be dropped.

All water quality and flow data will remain as in the original application. A new permit map and an updated ADEM Form 549 are attached. The new permit area description (Townships, Ranges, Sections) is included in the attached additional information as required on the completed form. According to ADEM permitting personnel the two permits will remain in effect under administrative extension until re-issuance of the Short Creek permit and all monitoring and inspections requirements for both permits will continue to be performed until re-issuance.

CERTIFICATION

I, John K. Haddock, a Professional Engineer registered in the State of Alabama, hereby certify that this application has been prepared by me or under my direct supervision and in strict accordance with standard and accepted practices and procedures. The material contained in this package, based upon public records, standard formats, client-supplied information, and personal experience with the project, the client, and the industry in general, is, to the best of my knowledge, true, accurate, and complete.

John K. Haddock, P.E.
Alabama Reg. No. 12998, President

EPA Standard Form 2C
(With Attached Additional Information)

Please type or print in the unshaded areas only

EPA ID Number *(Copy from Item 1 of Form 1)*
N/A

Form Approved
OMB No. 2040-0086
Approval expires 7-31-88

Form **2C** NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICUTLRAL OPERATIONS
Consolidated Permits Program

I. Outfall Location

For this outfall, list the latitude and longitude, and name of the receiving water(s)

Outfall Number *(list)*	Latitude			Longitude			Receiving Water *(name)*
	Deg	Min	Sec	Deg	Min	Sec	
001P	***33***	***27***	***37.0***	***87***	***6***	***56.0***	***Valley Creek***
002P	***33***	***34***	***33.2***	***87***	***5***	***1.3***	***Locust Fork***
001E	***33***	***27***	***56.0***	***87***	***07***	***13.0***	***Valley Creek (Oak Grove Wastewater Treatment Facility)***
							Note: Currently dischg to the 001E (Oak Grove Facility) outfall. Outfalls 001P and 002P have not been constructed.

II. Flows, Sources of Pollution, and Treatment Technologies

A. For each outfall, provide a description of (1) all operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and stormwater runoff; (2) the average flow contributed by each operation; and (3) the treatment received by the wastewater. Continue on additional sheets if necessary.

B. For each outfall, provide a description of (1) all operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and stormwater runoff; (2) the average flow contributed by each operation; and (3) the treatment received by the wastewater. Continue on additional sheets if necessary.

1. Outfall Number	2. Operations Contributing Flow		3. Treatment		
	a. OPERATION *(list)*	b. AVERAGE FLOW	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
001P, 002P,	*Produced Water*	*4,000 bbl/day*	*Grit Removal*	*1M*	
001E			*Aeration*	*3E*	*3B*
			Sedimentation	*1U*	
			Chemical Precipation	*2C*	*2D*
001P, 002P,	*Drilling/Stimulation/*	*100 bbl/day*	*Grit Removal*	*1M*	
001E	*Completion*		*Aeration*	*3E*	*3B*
			Sedimentation	*1U*	
			Chemical Precipation	*2C*	*2D*
001P, 002P,	*Production Related Operations*	*100 bbl/day*	*Seperation*	*1U*	
001E	*(pipeline, compressor)*		*Aeration*	*3E*	*3B*
			Chemical Precipation	*2C*	*2D*
001P, 002P,	*General/Miscellaneous Sources*	*10 bbl/day*	*Sedimentation*	*1U*	
001E	*(Rainfall in pits, basins,*		*Aeration*	*3E*	*3B*
	Facilities, hydro. test water,ect)		*Chemical Precipation*	*2C*	*2D*
001P, 002P,	*All Operations*	*100 bbl/day*	*Discharge to Surface*	*4A*	
001E			*Drying Beds*	*5H*	
			Landfill	*5Q*	
Note:	*Average flows are over the life of the project.*				

CONTINUED FROM THE FRONT

C. Except for storm runoff, leaks, or spills, are any of the discharges described in Items II-A or B intermittent or seasonal?

☒ **YES** *(complete the following table)* ☐ **NO** *(go to Section III)*

1. OUTFALL NUMBER (list)	2. OPERATION(s) CONTRIBUTING FLOW (list)	3. FREQUENCY a. DAYS PER WEEK (specify average)	3. FREQUENCY b. MONTHS PER YEAR (specify average)	4. FLOW a. FLOW RATE (in mgd) 1. LONG TERM AVERAGE	4. FLOW a. FLOW RATE (in mgd) 2. MAXIMUM DAILY	4. FLOW b. TOTAL VOLUME (specify with units) 1. LONG TERM AVERAGE	4. FLOW b. TOTAL VOLUME (specify with units) 2. MAXIMUM DAILY	c. DURATION (in days)
001P, 002P,	Drilling/Stimulation,							
001E	Completions	7	6	0.04	0.1	0.04	0.1	Continuous During annual development Stage.

III. PRODUCTION

A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility?

☐ **YES** *(complete Item III-B)* ☒ **NO** *(go to Section IV)*

B. Are the limitations in the applicable effluent guideline expressed in terms of production *(or other measure of operation)*?

☐ **YES** *(complete Item III-C)* ☐ **NO** *(go to Section IV)*

C. If you answered "yes" to Item III-B, list the quantity which represents an actual measurement of your level of production, expressed in the terms and units used in the applicable effluent guideline, and indicate the affected outfalls.

1. AVERAGE DAILY PRODUCTION a. QUANTITY PER DAY	b. UNITS OF MEASURE	c. OPERATION, PRODUCT, MATERIAL, ETC. (specify)	2. AFFECTED OUTFALLS (list outfall numbers)
N/A			

IV. IMPROVEMENTS

A. Are you now required by any Federal, State, or local authority to meet any implementation schedule for the construction, upgrading, or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

☐ **YES** *(complete the following table)* ☒ **NO** *(go to Item IV-B)*

1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS a. No	2. AFFECTED OUTFALLS b. SOURCE OF DISCHARGE	3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE a. REQUIRED	4. FINAL COMPLIANCE DATE b. PROJECTED
N/A					

B. OPTIONAL: You may attach additional sheets describing any additional water pollution control programs *(or other environmental projects which may affect your discharges)* you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction.

X **MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAM IS ATTACHED**

CONTINUED FROM PAGE 2

V. INTAKE AND EFFLUENT CHARACTERISTICS

A, B, & C: See instructions before proceeding - Complete one set of tables or each outfall - Annotate the outfall number in the space provided. **NOTE:** Tables V-A, V-B, and V-C are included on separate sheets number V-1 through V-9.

D: Use the space below t list any of the pollutants listed in Tables 2c-3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
Chlorides	*Produced water from wells.*		
(Not included on Table	*Max: 890 mg/L 6,232lb/day*		
2c-3 or in the para-	*30 Day average 600 mg/L*		
meter list but expected	*30 Day average 2,101 lb/day*		
To be present)	*Long term average 534 mg/L*		
	Long term average 935 lb/day		

VI. POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

Is any pollutant listed in Item V-C a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

☐ **YES** *(list all such pollutants below)* ☒ **NO** *(go to Item VI-B)*

None

CONTINUED FROM THE FRONT

VII. BIOLOGICAL TOXICITY TESTING DATA

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☒ **YES** *(identify the test(s) and describe their purpose below)* ☐ **NO** *(go to Section VIII)*

The existing NPDES Discharge permit for the Oak Grove Wastewater Treatment Facility, which receives all of the flow (and currently, only the flow) from the Short Creek CBM Project, requires routine quarterly chronic biological toxicity testing on the subject discharge,.

VIII. CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?

☒ **YES** *(list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)* ☐ **NO** *(go to Section IX)*

A. NAME	B. ADDRESS	C. TELEPHONE *(area code & no.)*	D. POLLUTANTS ANALYZED *(list)*
Environmental Testing & Engineering	*P.O. Box 715 Northport, Al 35476*	*(205) 339-0216*	*2c-A list, 2c-B(parts)*
Guardian Systems Inc.	*1108 Ashville Rd. Leeds, AL 35094*	*(205) 699-6647*	*2c-B(parts)*
KNL Laboratory Services	*2742 North Florida Avenue Tampa, Fl 33601*	*(813) 229-2879*	*2c-c Radioactives*
S-F Analytical Bioassay Laboratory	*6125 West National Avenue Milwaukee,WI 53214*	*(414) 475-6700*	*Biological Toxicity*
		( )	
		( )	
		( )	
		( )	
		( )	
		( )	
		( )	
		( )	
		( )	

IX. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. NAME & OFFICIAL TITLE *(type or print)*	B. PHONE NO. *(area code & no.)*
David Jaksik, General Manager, Black Warrior Basin, Alabama	*(713) 420-6133*
C. SIGNATURE	D. DATE SIGNED
	11/10/10

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA ID Number *(Copy from Item 1 of Form 1)*
N/A

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* (2) MASS	d. NO. OF ANALYSIS	3. UNITS *(specify if blank)* a. CONCENTRATION	3. UNITS b. MASS	4. INTAKE *(optional)* a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	11.4	79.84	3.2	11.2	3.2	5.6	**	mg/L	lb/day			
b. Chemical Oxygen Demand *(COD)*	184.0	1288.6	184.0	644.3	184.0	322.14	1	mg/L	lb/day			
c. Total Organic Carbon *(TOC)*	6.0	42.02	6.0	21.01	6.0	10.50	1	mg/L	lb/day			
d. Total Suspended Solids *(TSS)*	17.0	119.5	12	59.5	12	29.8	1	mg/L	lb/day			
e. Ammonia *(as N)*	1.16	8.12	1.16	4.06	1.16	2.03	1	mg/L	lb/day			
f. Flow ***See Attached**	Value 0.84		Value 0.42		Value 0.21		**	MGD		Value		
g. Temperature *(winter)*	Value 16		Value 16		Value 16		1	°C		Value		
h. Temperature *(summer)*	Value 26		Value 26		Value 26		1	°C		Value		
i. pH	Minimum 8.1	Maximum 8.8	Minimum **8.1**	Maximum **8.8**			**	STANDARD UNTIS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitation guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X' a. BELIEVED PRESENT	2. MARK 'X' b. BELIEVED ABSENT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* (2) MASS	d. NO. OF ANALYSIS	3. UNITS *(specify if blank)* a. CONCENTRATION	3. UNITS b. MASS	4. INTAKE *(optional)* a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
a. Bromide (24959-67-9)	☐	☒												
b. Chlorine, Total Residual	☐	☒	< 0.1						1	mg/L				
c. Color	☒	☐	2.0	N/A					1	CPU	N/A			
d. Fecal Coliform	☒	☐	30	N/A	Naturally Occuring	No contribution	From prcject		1	#/100	N/A			
e. Fluoride (16984-48-8)	☐	☒												
f. Nitrate-Nitrite *(as N)*	☒	☐	.01	0.07	0.01	0.04	0.01	0.02	1	mg/L	lb/day			

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X'		2. EFFLUENT						d. NO. OF ANALYSIS	3. UNITS *(specify if blank)*		4. INTAKE *(optional)*		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*			a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
g. Nitrogen, Total Organic *(as N)*	☒	☐	2.19	15.34	2.19	7.67	2.19	3.83	1	mg/L	lb/day			
h. Oil and Grease	☒	☐	14.4	100.84	5.0	50.42	5.0	25.21	**	mg/L	lb/day			
i. Phosphorus *(as P)*, Total (7723-14-0)	☒	☐	0.24	1.68	0.24	0.84	0.24	0.42	1	mg/L	lb/day			
j. Radioactivity														
(1) Alpha, Total	☐	☒	2.0+/-0.3		2.0+/-0.3		2.0+/-0.3		1	pCi/L	N/A			
(2) Beta, Total	☐	☒	3.8+/-0.3		3.8+/-0.3		3.8+/-0.3		1	pCi/L	N/A			
(3) Radium, Total	☐	☒	0.56+/-0.1		0.6+/-0.1		0.6+/-0.1		1	pCi/L	N/A			
(4) Radium 226, Total	☐	☒	0.2+/-0.3		0.2+/-0.3		0.2+/-0.3		1	pCi/L	N/A			
k. Sulfate *(as SO_4)* *(14808-79-6)*	☒	☐	649.0	4545.0	649.0	2273.0	649.0	1136.0	1	mg/L	lb/day			
l. Sulfide (as S)	☒	☐	<.01	0.07	<0.01	0.04	<0.01	0.02	1	mg/L	lb/day			
m. Sulfite *(as SO_3)(14265-45-3)*	☐	☒								mg/L	lb/day			
n. Surfactants	☒	☐	0.44	0.34	0.44	0.17	0.44	0.165	1	mg/L	lb/day			
o. Aluminum, Total (7429-90-5)	☒	☐	1.33	9.31	1.33	4.66	1.33	2.33	1	mg/L	lb/day			
p. Barium, Total (7440-39-3)	☒	☐	0.21	1.47	0.21	0.74	0.21	0.37	1	mg/L	lb/day			
q. Boron, Total (7440-42-8)	☐	☒								mg/L	lb/day			
r. Cobalt, Total (7440-48-4)	☐	☒								mg/L	lb/day			
s. Iron, Total (7439-89-4)	☒	☐	5.297	37.1	1.058	18.55	1.058	9.27	**	mg/L	lb/day			
t. Magnesium, Total (7439-95-4)	☒	☐	0.228	1.60	0.228	0.80	0.228	0.40	1	mg/L	lb/day			
u. Molybdenum, Total (7439-98-7)	☐	☒								mg/L	lb/day			
v. Manganese, Total (7439-96-5)	☒	☐	1.637	11.46	0.155	5.73	0.155	2.87	**	mg/L	lb/day			
w. Tin, Total (7440-31-5)	☐	☒								mg/L	lb/day			
x. Titanium, Total (7440-32-6)	☐	☒								mg/L	lb/day			

CONTINUE ON PAGE V-3

CONTINUED FROM PAGE 3 OF FORM 2-C

EPA ID Number *(Copy from Item 1 of Form 1)*	OUTFALL NUMBER
N/A	*001P, 002P, 001E*

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a *(secondary industries, nonprocess wastewater outfalls, and non-required GC/MS fractions)*, mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant. If you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table *(all 7 pages)* for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			2. EFFLUENT							3. UNITS *(specify if blank)*		4. INTAKE *(optional)*		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSIS	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS						
METALS, CYANIDE, AND TOTAL PHENOLS															
1m. Antimony, Total (7440-36-0)	☐	☐	☒												
2M. Arsenic, Total (7440-38-2)	☒	☐	☒	< 0.005	< 0.04	< 0.005	< 0.02	< 0.005	< 0.01	1	mg/L	lb/day			
3M. Beryllium, Total (7440-41-7)	☐	☐	☒												
4M. Cadmium, Total (7440-43-9)	☒	☐	☒	0.037	0.26	0.037	0.13	0.037	0.06	1	mg/L	lb/day			
5M Chromium, Total (7440-47-3)	☒	☐	☒	0.917	6.42	0.917	3.21	0.917	1.61	1	mg/L	lb/day			
6M Copper, Total (7440-50-8)	☒	☐	☒	.031	.22	.031	.11	.031	.05	1	mg/L	lb/day			
7M lead, Total (7439-92-1)	☒	☐	☒	.439	3.07	.439	1.54	.439	0.77	1	mg/L	lb/day			
8M Mercury, Total (7439-97-6)	☒	☐	☒	< 0.001	< 0.01	< 0.001	< 0.005	< 0.001	< 0.002	1	mg/L	lb/day			
9M Nickel, Total (7440-02-0)	☒	☐	☒	0.040	0.28	0.040	0.14	0.040	0.07	1	mg/L	lb/day			
10M Selenium, Total (7782-49-2)	☒	☐	☒	0.006	0.04	0.006	0.02	0.006	0.01	1	mg/L	lb/day			
11M Silver, Total (7440-22-4)	☒	☐	☒	< 0.043	<0.30	< 0.043	<0.15	< 0.043	<0.08	1	mg/L	lb/day			
12M Thallium, Total (7440-28-0)	☐	☐	☒												
13M Zinc, Total (7440-66-6)	☒	☐	☒	0.009	0.06	0.009	0.03	0.009	0.02	1	mg/L	lb/day			
14M Cyanide, Total (57-12-5)	☒	☐	☒	< 0.02	< 0.14	< 0.02	< 0.07	< 0.02	< 0.04	1	mg/L	lb/day			
15M Phenols, Total	☒	☐	☒	<0.005	< 0.04	<0.005	< 0.02	<0.005	< 0.01	1	mg/L	lb/day			
DIOXIN															
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764--01-6)	☐	☐	☒	DESCRIBE RESULTS *Not Present*											

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X'			2. EFFLUENT						d. NO. OF ANALYSIS	3. UNITS (specify if blank)		4. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)					a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS		a. CONCENTRATION	b. MASS	(1) CONCENTRATION	(2) MASS	
GC/MS - VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	☐	☐	☒	< 20.0	< 0.14	< 20.0	< 0.07	< 20.0	< 0.035	1	ug/L	lb/day			
2V Acrylonitrile (107-13-1)	☐	☐	☒	< 20.0	< 0.14	< 20.0	< 0.07	< 20.0	< 0.035	1	ug/L	lb/day			
3V Benzene (71-43-2)	☒	☐	☒	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.007	1	ug/L	lb/day			
4V Bis (Chloromethyl) Ether (542-88-1)	☐	☐	☒	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.007	1	ug/L	lb/day			
5V Bromoform (75-25-2)	☐	☐	☒	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.007	1	ug/L	lb/day			
6V Carbon Tetrachloride (56-23-5)	☐	☐	☒	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.007	1	ug/L	lb/day			
7V Chlorobenzene (108-90-7)	☐	☐	☒	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.007	1	ug/L	lb/day			
8V Chlorodibromomethane (124-48-1)	☐	☐	☒	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.007	1	ug/L	lb/day			
9V Chloroethane (75-00-3)	☐	☐	☒	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.007	1	ug/L	lb/day			
10V 2-Chloroethylvinyl Ether (110-75-8)	☐	☐	☒	< 50.0	< 0.350	< 50.0	< 0.175	< 50.0	< 0.088	1	ug/L	lb/day			
11V Chloroform (67-66-3)	☐	☐	☒	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.007	1	ug/L	lb/day			
12V Dichlorobromoethane (75-71-8)	☐	☐	☒	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.007	1	ug/L	lb/day			
13V Dichlorodifluoromethane (75-71-8)	☐	☐	☒	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.007	1	ug/L	lb/day			
14V 1,1-Dichloroethane (75-34-3)	☐	☐	☒	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.007	1	ug/L	lb/day			
15V 1,2-Dichloroethane (107-06-2)	☐	☐	☒	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.007	1	ug/L	lb/day			
16V 1,1-Dichloroethylene (75335-4)	☐	☐	☒	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.007	1	ug/L	lb/day			
17V 1,2-Dichloropropane (78-87-5)	☐	☐	☒	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.007	1	ug/L	lb/day			
18V 1,3-Dichloropropylene (542-76-6)	☐	☐	☒	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.007	1	ug/L	lb/day			
19V Ethylbenzene (100-41-4)	☐	☐	☒	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.007	1	ug/L	lb/day			
20V Methyl Bromide (74-83-9)	☐	☐	☒	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.007	1	ug/L	lb/day			
21V Methyl Chloride (74-87-3)	☐	☐	☒	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.007	1	ug/L	lb/day			

CONTINUE ON PAGE V-5

EPA ID Number *(Copy from Item 1 of Form 1)*: N/A

OUTFALL NUMBER: 001P, 002P, 001E

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X'			2. EFFLUENT							3. UNITS *(specify if blank)*		4. INTAKE *(optional)*		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSIS	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS - VOLATILE COMPOUNDS *(continued)*															
22 V Methylene Chloride (75-09-2)	☐	☐	☒	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.007	1	ug/L	lb/day			
23V 1,1,2,2-Tetrachloroethane (79-34-5)	☐	☐	☒	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.007	1	ug/L	lb/day			
24V Tetrachloroethylene (127-18-4)	☐	☐	☒	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.007	1	ug/L	lb/day			
25V Toluene (108-88-3)	☒	☐	☐	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.004	1	ug/L	lb/day			
26V 1,2-Trans-Dichloroethylene (156-60-5)	☐	☐	☒	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.007	1	ug/L	lb/day			
27V 1,1,1-Trichloroethane (71-55-6)	☐	☐	☒	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.007	1	ug/L	lb/day			
28V 1,1,2-Trichloroethane (79-00-5)	☐	☐	☒	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.007	1	ug/L	lb/day			
29V Trichloroethylene (79-01-6)	☐	☐	☒	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.007	1	ug/L	lb/day			
30V Trichlorofluoromethane (75-69-4)	☐	☐	☒	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.007	1	ug/L	lb/day			
31V Vinyl Chloride (75-01-4)	☐	☐	☒	< 2.0	<0.014	< 2.0	<0.007	< 2.0	<0.007	1	ug/L	lb/day			
GC/MS FRACTION - ACID COMPOUNDS															
1A 2-Chlorophenol (95-57-8)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
2A 2,4-Dichlorophenol (120-83-2)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
3A 2,4-Dimethylphenol (105-67-9)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
4A 4,6-Dinitro-O-cresol (534-52-1)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
5A 2,4-Dinitrophenol (51-28-5)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
6A 2-Nitrophenol (88-75-5)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
7A 4-Nitrophenol (100-02-7)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
8A P-Chloro-M-Cresol (59-50-7)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
9A Pentachlorophenol (87-86-5)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
10A Phenol (10/-95-2)	☒	☐	☐	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
11A 2,4,6-Trichlorophenol (88-06-2)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X'			2. EFFLUENT						d. NO. OF ANALYSIS	3. UNITS (specify if blank)		4. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)			a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS															
1B Acenaphthene (83-32-9)	☒	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
2B Acenaphtylene (208-96-8)	☒	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
3B Anthracene (120-12-7)	☒	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
4B Benzidine (92-87-5)	☒	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
5B Benzo (a) Anthracene (56-55-3)	☒	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
6B Benzo (a) Pyrene (50-32-8)	☒	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
7B 3,4-Benzo-fluoranthene (205-99-2)	☒	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
8B Benzo (ghi) Perylene (191-24-2)	☒	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
9B Benzo (k) Fluoranthene (207-08-9)	☒	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
10B Bis (2-Chloroethoxy) Methane (111-91-1)	☒	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
11B Bis (2-Chloro-ethyl) Ether (111-44-4)	☒	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
12B Bis (2-Chloroisopropyl) Ether (102-60-1	☒	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
13B Bis(2-Ethyl-hexyl) Phthalate (117-81-7)	☒	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
14 B 4-Bromo-phenyl Phenyl Ether (101-55-3)	☒	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
15B Butyl Benzyl Phthalate (85-68-7)	☒	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ugL	lb/day			
16B 2-Chloro-naphthalene (91-58-7)	☒	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
17B 4-Chloro-phenyl Phenyl Ether (7005-72-3)	☒	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
18B Chrysene (218-01-9)	☒	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
19B Dibenzo (a,h) Anthracene (53-70-3)	☒	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
20B 1,2-Dichloro-benzene (95-50-1)	☒	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
21B 1,3-Dichloro-benzene (541-73-1)	☒	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			

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EPA ID Number *(Copy from Item 1 of Form 1)*: N/A

OUTFALL NUMBER: 001P, 002P, 001E

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X'			2. EFFLUENT						3. UNITS *(specify if blank)*		4. INTAKE *(optional)*		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSIS	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS - BASE/NEUTRAL COMPOUNDS *(continued)*															
22B 1,4-Dichlorobenzene (106-46-7)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
23B 3,3'-Dichlorobenzidine (91-94-1)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
24B Diethyl Phthalate (84-66-2)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
25B Dimethyl Phthalate (131-11-3)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
26B Di-N-Butyl Phthalate (131-11-3)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
27B 2,4-Dinitrotoluene (121-14-2)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
28B 2,6-Dinitrotoluene (606-20-2)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
29B Di-N-Octyl Phthalate (117-84-0)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
30B 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
31B Fluoranthene (206-44-0)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
32B Fluorene (86-73-7)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
33B Hexachlorobenzene (118-74-1)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
34B Hexachlorobutadiene (87-68-3)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
35B Hexachlorocyclopentadiene (77-47-4)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
36B Hexachloroethane (67-72-1)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
37B Indeno (1,2,3-cd) Pyrene (193-39-5)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
38B Isophorone (78-59-1)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
39B Naphthalene (91-20-3)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
40B Nitrobenzene (98-95-3)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
41B N-Nitrosodimethylamine (62-75-9)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
42B N-Nitrosodi-N-Propylamine (621-64-7)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X'			2. EFFLUENT						d. NO. OF ANALYSIS	3. UNITS (specify if blank)		4. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)			a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)															
43B N-Nitrosodiphenylamine (86-30-6)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
44B Phenanthrene (85-01-8)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
45B Pyrene (129-00-0)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
46B 1,2,4-Trichlorobenzene (120-82-1)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
GC/MS FRACTION - PESTICIDES															
1P Aldrin (309-00-2)	☐	☐	☒	< 0.04	< 0.001	< 0.04	< 0.001	< 0.04	< 0.001	1	ug/L	lb/day			
2P β-Bhc (319-85-7)	☐	☐	☒	< 0.03	< 0.001	< 0.03	< 0.001	< 0.03	< 0.001	1	ug/L	lb/day			
4P γ-BHC (58-89-9)	☐	☐	☒												
5P δ-BHC (319-86-8)	☐	☐	☒												
6P Chlordane (57-74-9)	☐	☐	☒	< 0.03	< 0.001	< 0.03	< 0.001	< 0.03	< 0.001	1	ug/L	lb/day			
7P 4,4'-DDT (50-29-3)	☐	☐	☒												
8P 4,4'-DDE (72-55-9)	☐	☐	☒												
9P 4,4'-DDD (72-54-8)	☐	☐	☒	< 0.110	< 0.001	< 0.110	< 0.001	< 0.110	< 0.001	1	ug/L	lb/day			
10P Dieldrin (60-57-1)	☐	☐	☒	< 0.02	< 0.001	< 0.02	< 0.001	< 0.02	< 0.001	1	ug/L	lb/day			
11P α-Endosulfan (115-29-7)	☐	☐	☒	< 0.14	< 0.001	< 0.14	< 0.001	< 0.14	< 0.001	1	ug/L	lb/day			
12P β-Endosulfan (115-29-7	☐	☐	☒	< 0.04	< 0.001	< 0.04	< 0.001	< 0.04	< 0.001	1	ug/L	lb/day			
13P Endosulfan Sulfate (1031-07-8)	☐	☐	☒	< 0.66	< 0.001	< 0.66	< 0.001	< 0.66	< 0.001	1	ug/L	lb/day			
14P Endrin (72-20-8)	☐	☐	☒	< 0.1	< 0.001	< 0.1	< 0.001	< 0.1	< 0.001	1	ug/L	lb/day			
15P Endrin Aldehyde (7421-93-4)	☐	☐	☒	< 0.23	< 0.001	< 0.23	< 0.001	< 0.23	< 0.001	1	ug/L	lb/day			
16P Heptachlor (76-44-8)	☐	☐	☒	< 0.02	< 0.001	< 0.02	< 0.001	< 0.02	< 0.001	1	ug/L	lb/day			

CONTINUE ON PAGE V-9

CONTINUED FROM PAGE V-6

EPA ID Number *(Copy from Item 1 of Form 1)*: *N/A*

OUTFALL NUMBER: *001P, 002P, OR 003E*

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK "X"			2. EFFLUENT						3. UNITS *(specify if blank)*		4. INTAKE *(optional)*		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSIS	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS - PESTICIDES *(continued)*															
17P Heptachlor Expxide (1024-57-3)	☐	☐	☒	< 0.02	< 0.001	< 0.02	< 0.001	< 0.02	< 0.001	1	ug/L	lb/day			
18P PCB-1242 (53469-21-9)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
19P PCB-1254 (11097-69-1)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
20P PCB-1221 (11104-28-2)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
21P PCB-1232 (11141-16-5)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
22P PCB-1248 (12672-29-6)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
23P PCB-1260 (11096-82-5)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
24P PCB-1016 (12674-11-2)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			
25P Toxaphene (8001-35-2)	☐	☐	☒	< 5.0	< 0.04	< 5.0	< 0.02	< 5.0	< 0.01	1	ug/L	lb/day			

ADDITIONAL INFORMATION
EPA STANDARD FORM 2C

The following is additional information as required in the above-referenced form.

ITEM IV – DESCRIPTION OF WATER POLLUTION CONTROL FACILITIES AND SYSTEMS

The water pollution control facilities and systems are detailed in the attached Pollution Abatement Plan. The following is a summary:

The drilling, stimulation, and completion fluids are collected in well site drill pits (Alabama Oil & Gas Bd. Regulations) during the development of the well. These fluids are trucked to the facility until the well is connected to the water gathering system, at which time the majority of the development fluids will have been returned. The produced water, which makes up the majority of the fluids generated by the project, flows to the wastewater treatment facility for treatment and discharge under the NPDES permit.

EXISTING COMPRESSOR OIL COLLECTION FACILITIES
Systems for collection and separation of waste compressor oils are currently in place. The waste oils and water phases are managed according to standard guidelines and the facility is covered by the SPCC Plan. Though the water phase is currently disposed through a licensed/permitted used oil facility, the separated water may possibly be disposed through the wastewater treatment facility at some point in the future.

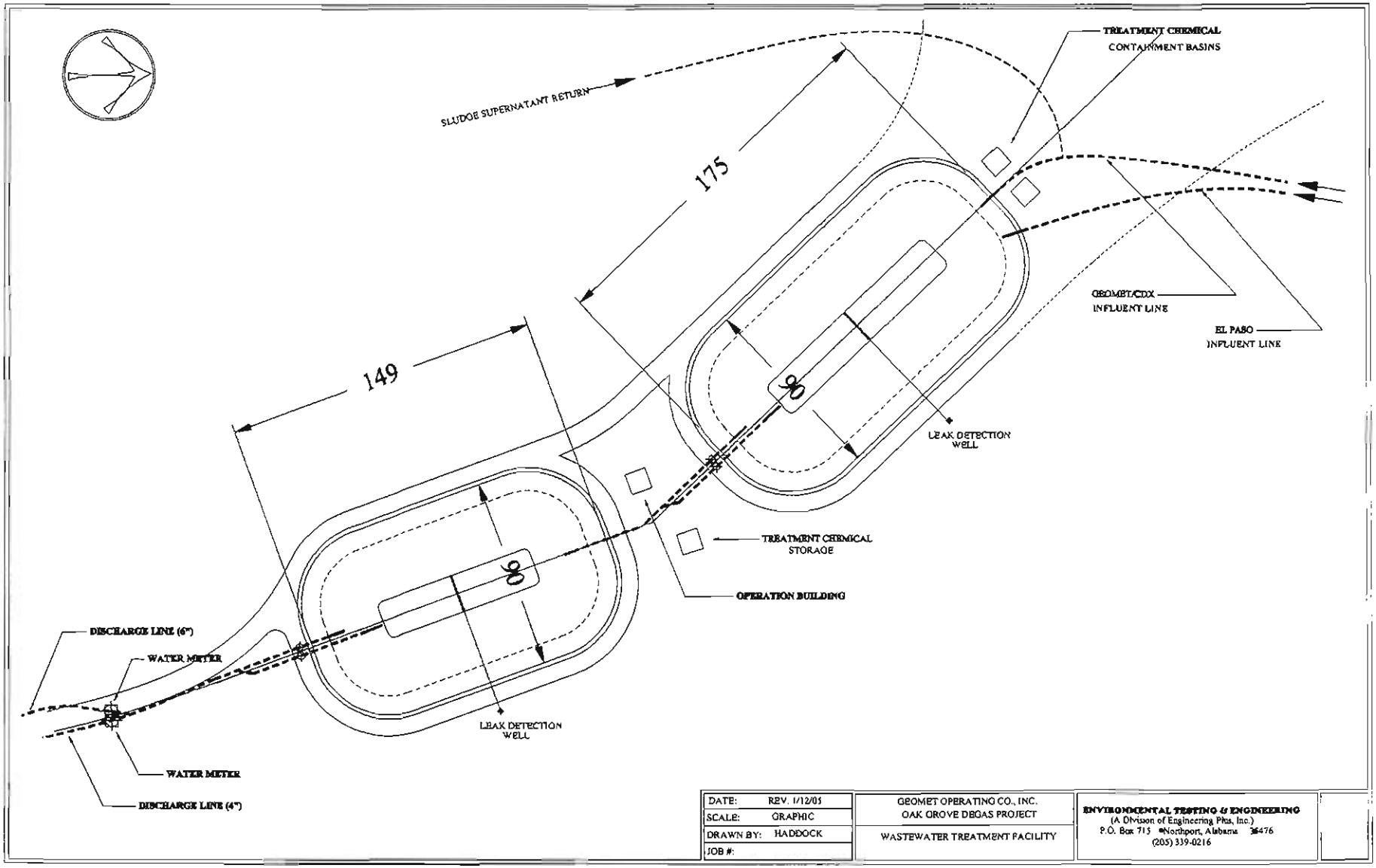
EXISTING WASTEWATER TREATMENT FACILITY
The wastewater generated by the project is currently being managed through El Paso's Oak Grove Wastewater Treatment Facility. The Oak Grove project (NPDES AL 0067351) is located adjacent to the Short Creek project, is owned by El Paso E&P Company, LP, and discharges to Valley Creek, a tributary of the Black Warrior River.

PROPOSED WASTEWATER COLLECTION/TREATMENT AND DISCHARGE FACILITIES
Additional wastewater collection/treatment facilities may be constructed on the Short Creek project area in the future, depending upon future development and flows. The 2-celled synthetically lined facility(s) will include provisions for wastewater collection, storage, aeration, chemical treatment, and sludge management (See attached typical plans and PAP Plan for further details).

ADDITIONAL PROPOSED TREATMENT, PRE-TREATMENT FACILITIES AS NECESSARY
Additional facilities may be necessary for collection/equalization, pre-treatment, etc., based upon unforeseen conditions. Plans for any proposed facilities will be submitted and approved prior to construction and certified as-built drawings will be provided upon completion.

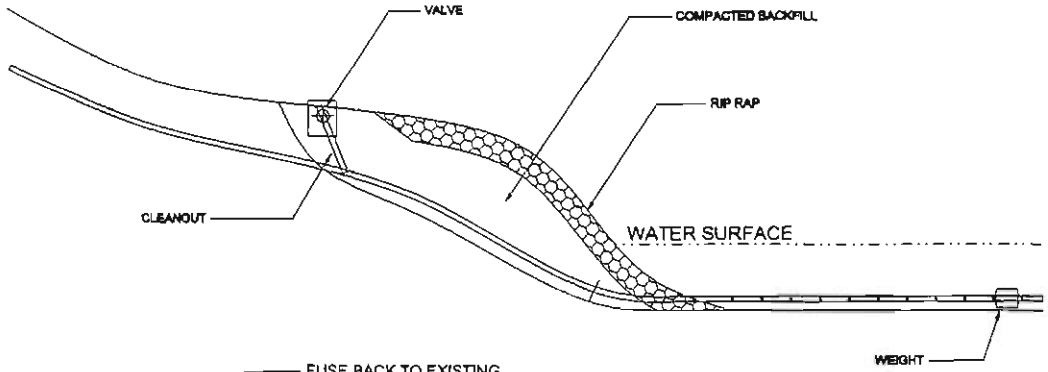
ANALYTICAL RESULTS, PAGE V-1 – V-9:
A recent representative effluent sample was collected from the existing Oak Grove facility and the analytical results are included on the attached EPA Form 2C. Parameters with a "**" in the "no of analyses" column indicates long term (weekly over the past year) effluent analyses as reported on routine discharge monitoring reports. At least one analysis has been performed for all parameters at some point since the discharge permit has been in effect. Parameters that were not analyzed in the recent sample were listed as "Believed Absent" based upon the past analytical results, knowledge of the general operations, the materials, and the materials known or suspected to be generated in the operations. Analytical results, methods, dates and times as well as signed chains of sample custody are on file and are available upon request. Maximum daily mass quantities were calculated using the project design flow of 20,000 bbl/day and are therefore conservatively high. In the event that the design flow was ever reached, it is likely that one or more of the proposed facilities would have been constructed and the discharge would not be from a single discharge point.

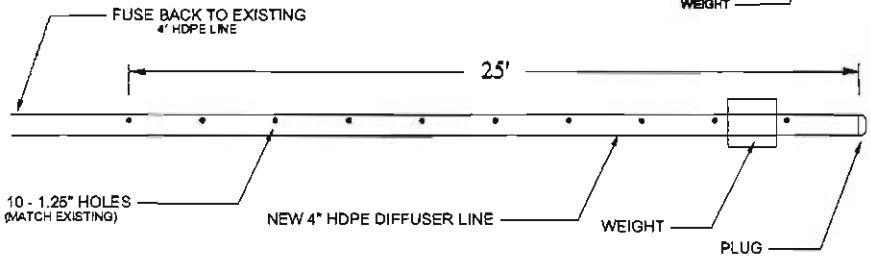
WASTEWATER COLLECTION/TREATMENT FACILITY PLANS



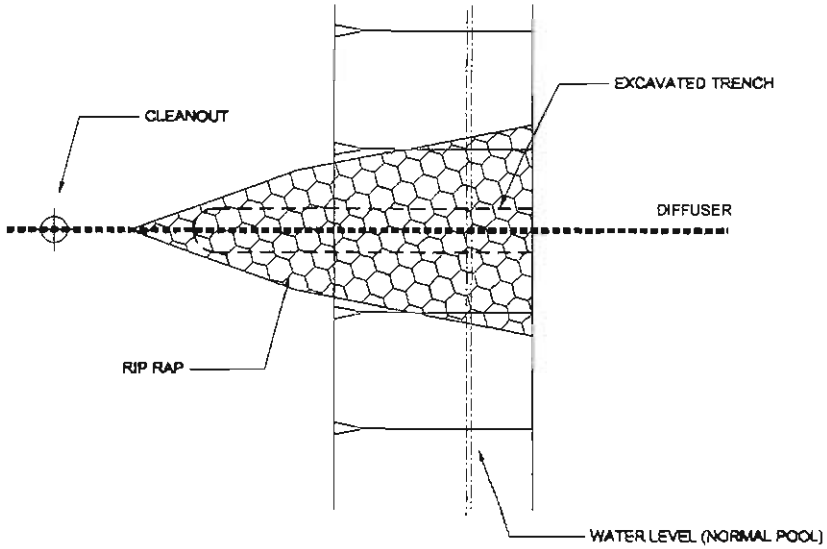
DATE:	REV. 1/12/05	GEOMET OPERATING CO., INC.	ENVIRONMENTAL TESTING & ENGINEERING
SCALE:	GRAPHIC	OAK GROVE DEGAS PROJECT	(A Division of Engineering Plus, Inc.)
DRAWN BY:	HADDOCK	WASTEWATER TREATMENT FACILITY	P.O. Box 715 Northport, Alabama 35476
JOB #:			(205) 339-0216

DISCHARGE FACILITY/INSTREAM MONITORING SYSTEM PLANS

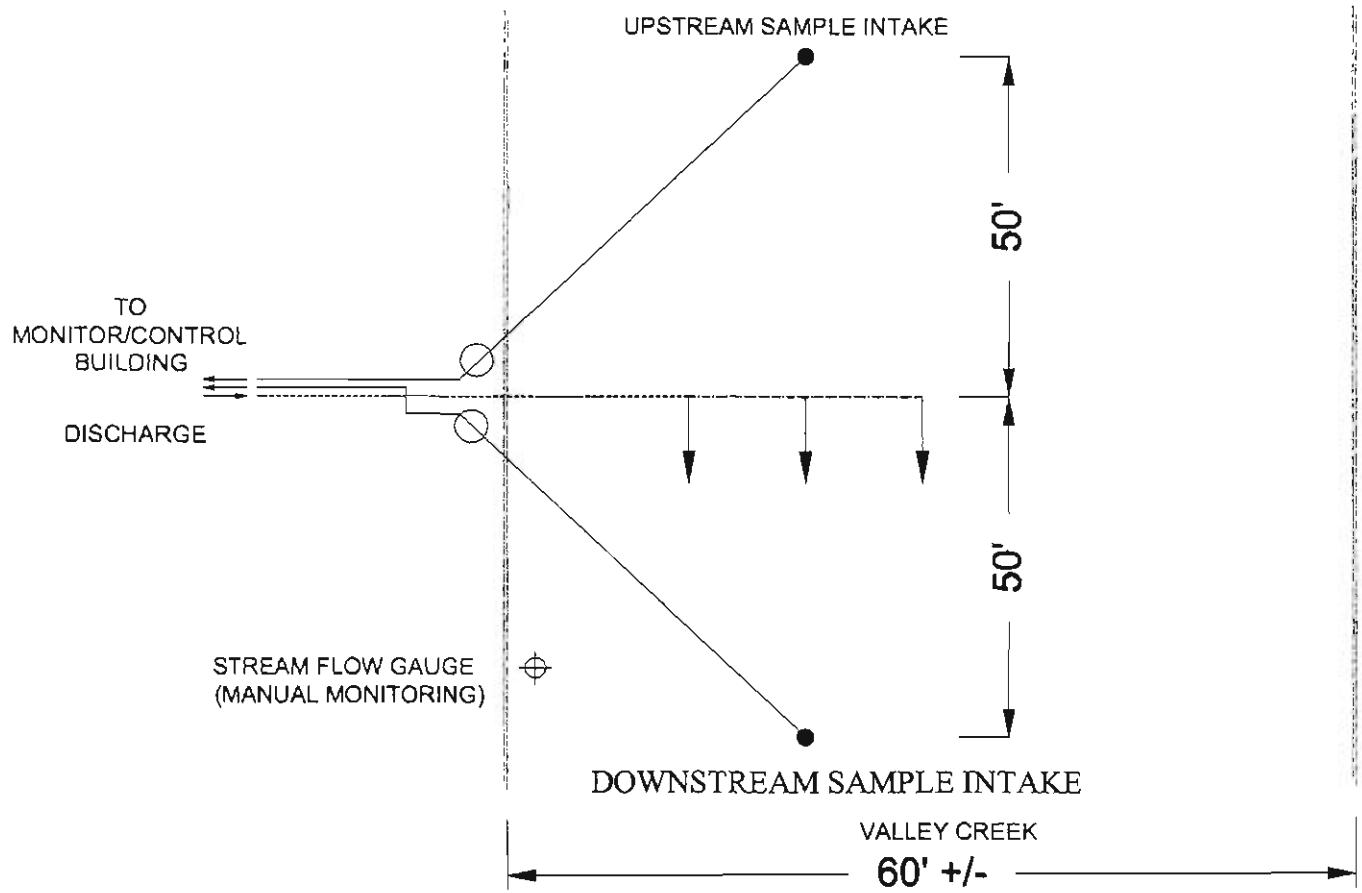




DIFFUSER ASSEMBLY



DATE: 1/18/05	GEOMET OPERATING CO., INC.	ENVIRONMENTAL TESTING & ENGINEERING	
SCALE: GRAPHIC	OAK GROVE WASTEWATER FACILITY	(A Division of Engineering Plus, Inc.)	
DRAWN BY: HADDOCK	DIFFUSER DESIGN	P.O. Box 715 Northport, Alabama 35476	
JOB #:		(205) 339-0216	

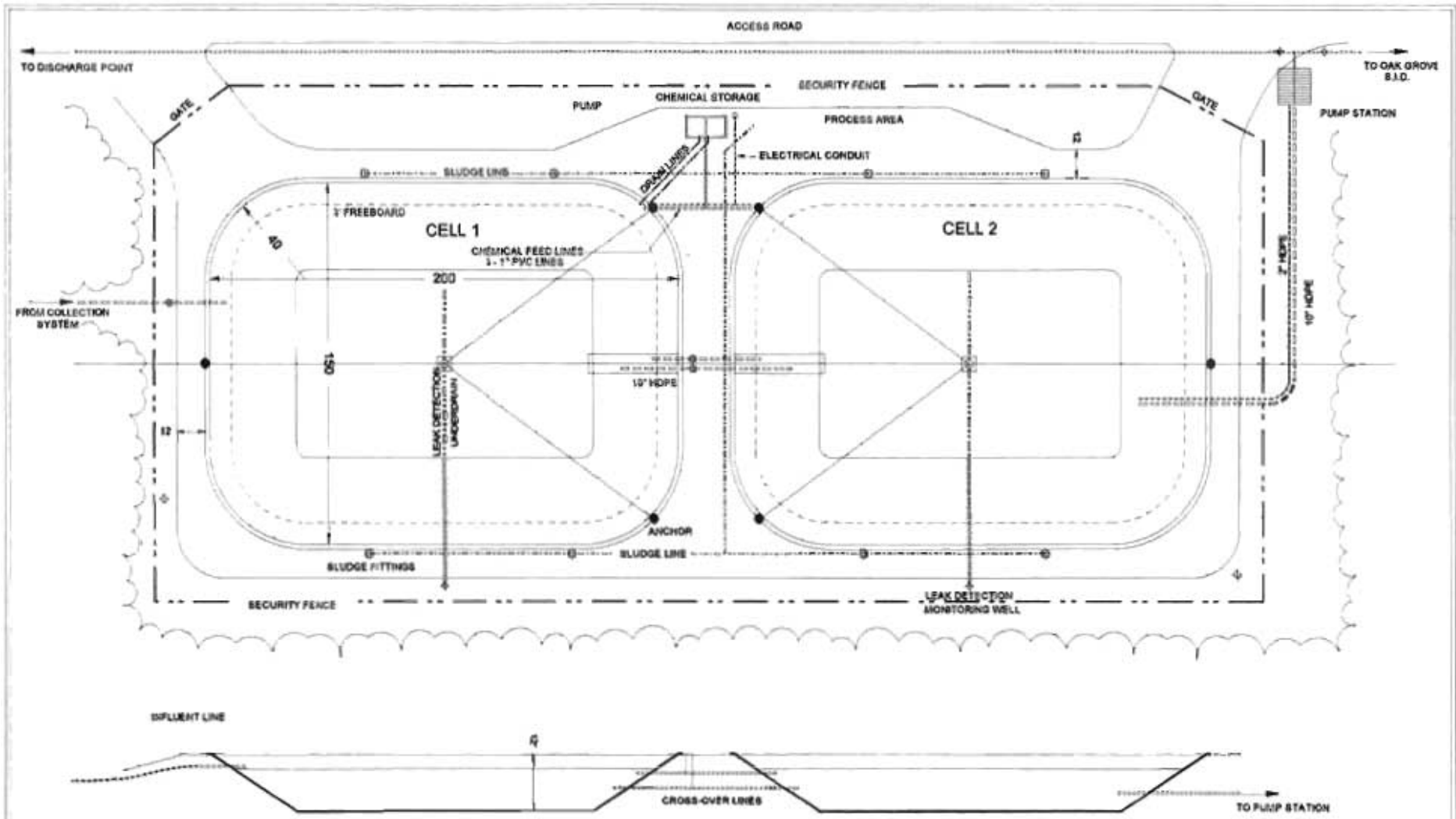


DOWNSTREAM SAMPLE INTAKE: 10 x WATER DEPTH (5') = 50'

DATE:	1/18/05
SCALE:	GRAPHIC
DRAWN BY:	HADDOCK
JOB #:	

GEOMET OPERATING CO., INC.
OAK GROVE WASTEWATER FACILITY
INSTREAM MONITORING SYSTEM

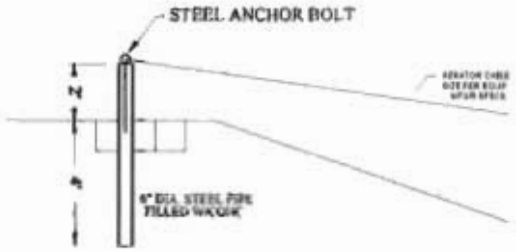
ENVIRONMENTAL TESTING & ENGINEERING
(A Division of Engineering Plus, Inc.)
P.O. Box 715 •Northport, Alabama 35476
(205) 339-0216



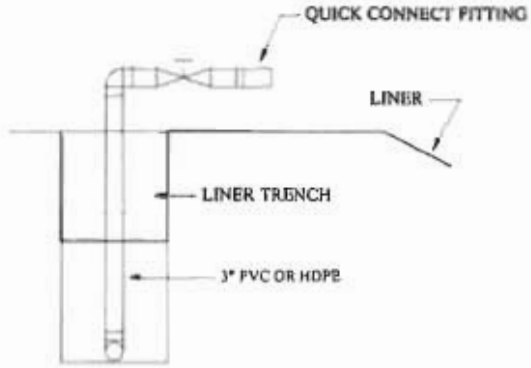
NOTE: ALL POND SLOPES (INTERIOR AND EXTERIOR) ARE 3 HORIZONTAL : 1 VERTICAL OR FLATTER.

DATE:	3/15/04	EL PASO PRODUCTION COMPANY SHORT CREEK PROJECT	ENVIRONMENTAL TESTING & ENGINEERING (A Division of Engineering Plus, Inc.) P.O. Box 715 • Northport, Alabama • 35476 (205) 339-0216
SCALE:	GRAPHIC		
DRAWN BY:	HADDOCK	WASTEWATER TREATMENT FACILITY FACILITY LAYOUT	
JOB #:			

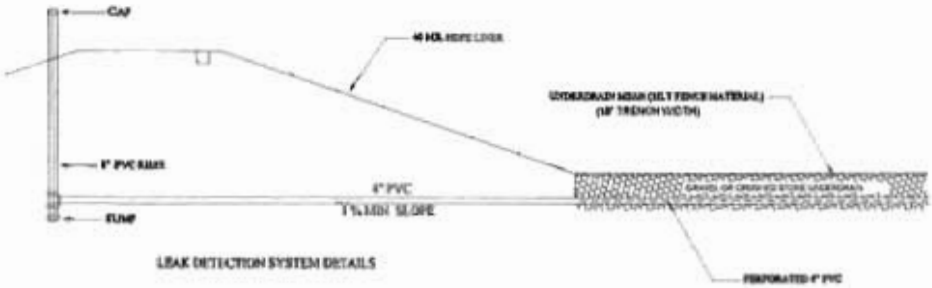
2



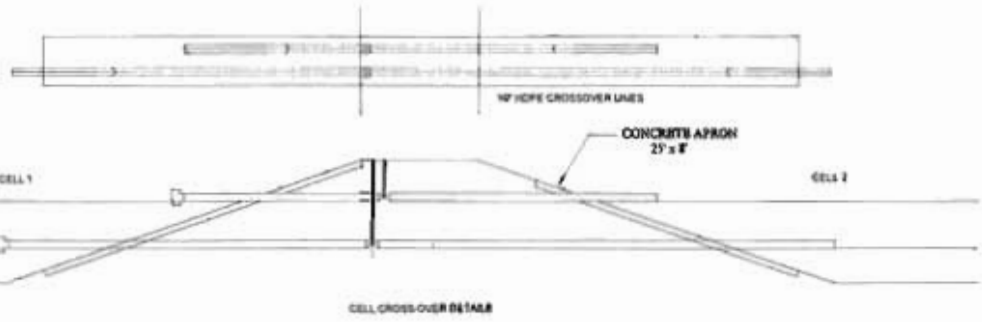
AERATOR ANCHOR DETAIL



SLUDGE COLLECTION LINE DETAIL

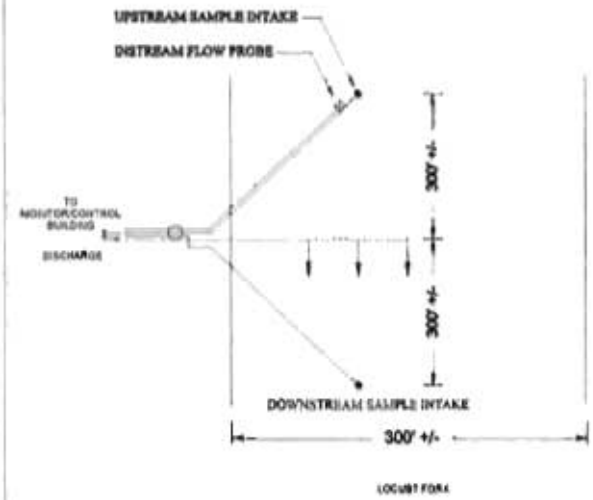


LEAK DETECTION SYSTEM DETAILS



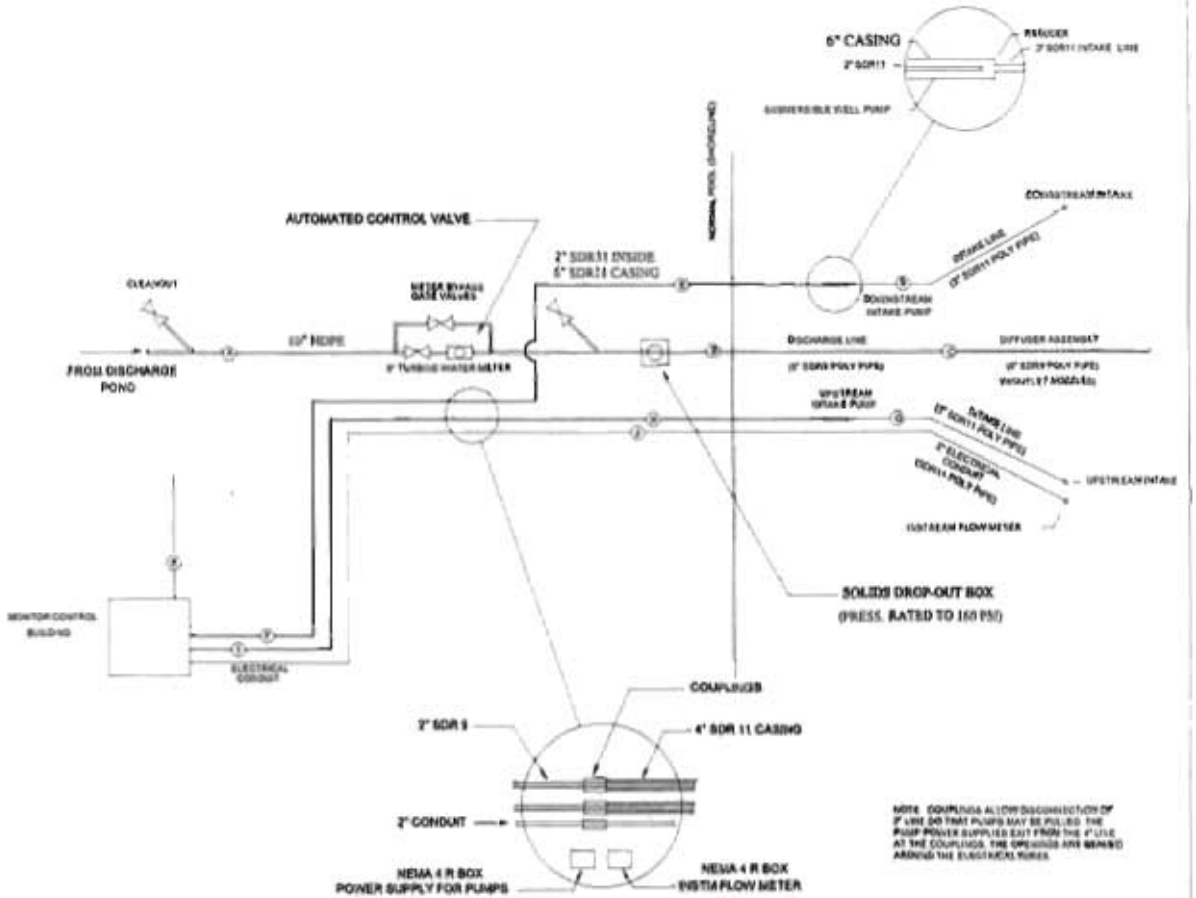
CELL CROSS-OVER DETAIL

DATE: REVISED 8/03/04	EL PASO PRODUCTION COMPANY SHORT CREEK PROJECT	ENVIRONMENTAL TESTING & ENGINEERING (A Division of Engineering Plus, Inc.) P.O. Box 715 Northport, Alabama 35476 (205) 339-0216	5
SCALE: GRAPHIC			
DRAWN BY: HADDOCK	WASTEWATER TREATMENT FACILITY DETAILS - MISCELLANEOUS		
JOB #:			



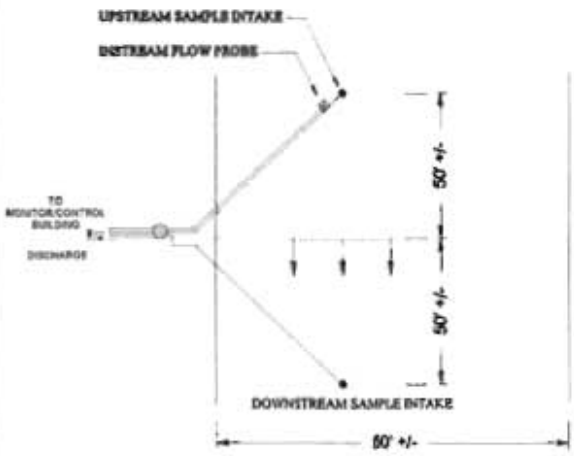
NOTE:
THE REGULATIONS REQUIRE THAT THE DOWNSTREAM SAMPLE INTAKE MUST BE LOCATED A DISTANCE OF 10 TIMES THE STREAM DEPTH OR 2 TIME THE STREAM WIDTH (THE SHORTEST OF THE TWO). THE RIVER DEPTH AT THE DIFFUSER IS APPROXIMATELY 30 FEET SO THE INTAKE IS LOCATED 300 FEET BELOW THE DIFFUSER. THE UPSTREAM SAMPLE INTAKE MUST BE LOCATED LESS THAN 2,500 FEET UPSTREAM OF THE DIFFUSER. THE UPSTREAM INTAKE WILL BE LOCATED APPROXIMATELY 300 FEE ABOVE THE DIFFUSER

BASED UPON STANDARD CALCULATIONS, THE DIFFUSER HAS 10 OPENINGS OF 1.5 INCHES SPACED 5' APART.



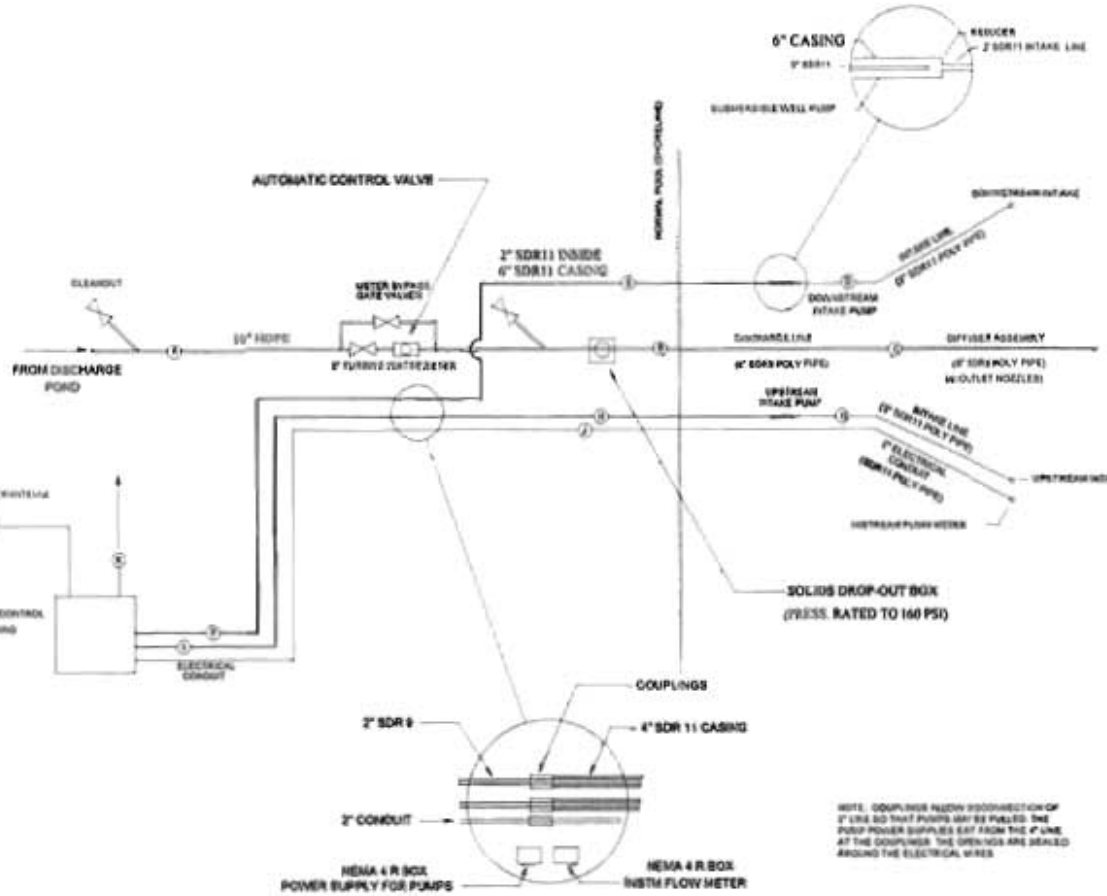
NOTE: COUPLINGS ALLOW DISCONNECTION OF 2" LINE SO THAT PUMPS MAY BE PULLED. THE PUMP POWER SUPPLIES EXIT FROM THE 4" LINE AT THE COUPLINGS. THE OPENINGS ARE SEALED AROUND THE ELECTRICAL WIRES.

DATE:	9/104	EL PASO PRODUCTION COMPANY SHORT CREEK COALBED METHANE PROJECT	ENVIRONMENTAL TESTING & ENGINEERING (A Division of Engineering Plus, Inc.) P.O. Box 718, Northport, AL 35476 (205)339-0216
SCALE:	GRAPHIC		
DRAWN BY:	HADDOCK	LOCUST FORK DISCHARGE ALTERNATE (600P)	FIGURE: 6
PROJECT #:		DISCHARGE SYSTEM SCHEMATICS	



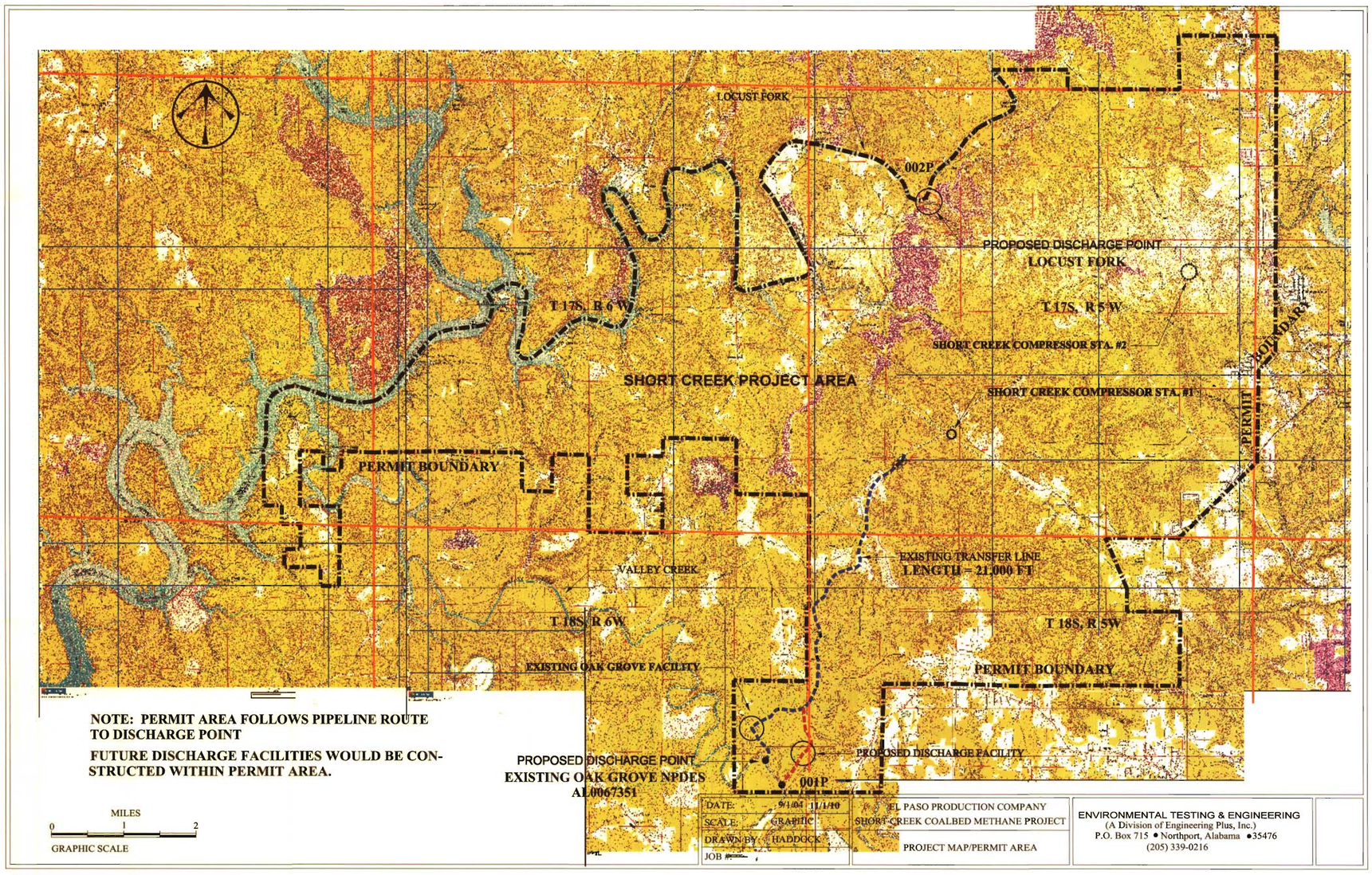
NOTE:
THE REGULATIONS REQUIRE THAT THE DOWNSTREAM SAMPLE INTAKE MUST BE LOCATED A DISTANCE OF 10 TIMES THE STREAM DEPTH OR 2 TIMES THE STREAM WIDTH (THE SMALLEST OF THE TWO). THE STREAM DEPTH AT THE DIFFUSER IS APPROXIMATELY 8 FEET AND THE STREAM WIDTH IS APPROXIMATELY 80 FEET. THEREFORE, THE PROPOSED INTAKE WILL BE LOCATED 8' x 10 OR 80 FEET DOWNSTREAM OF THE DIFFUSER. THE UPSTREAM SAMPLE INTAKE MUST BE LOCATED LESS THAN 2,500 FEET UPSTREAM OF THE DIFFUSER. UPSTREAM FLOW MONITORING WILL BE ACCOMPLISHED BY A STREAM GAUGE SENSOR CALIBRATED ON THE USGS MONITORING STATION LOCATED APPROXIMATELY 2 MILES UPSTREAM OF THE DISCHARGE.

BASED UPON STANDARD CALCULATIONS, THE DIFFUSER HAS 10 OPENINGS OF 1.5 INCHES SPACED 8' APART



NOTE: COUPLINGS ALLOW DISCONNECTION OF 2" LINE SO THAT PUMPS MAY BE PULLED. THE PUMP POWER SUPPLIES EXIT FROM THE 4" LINE AT THE COUPLINGS. THE OPENINGS ARE SEALED AROUND THE ELECTRICAL WIRES.

DATE: 3/2005	EL PASO PRODUCTION COMPANY	ENVIRONMENTAL TESTING & ENGINEERING	FIGURE:
SCALE: GRAPHIC	SAN JUAN COUNTY COALBED METHANE PROJECT	(A Division of Engineering Plus, Inc.)	6
DRAWN BY: HADDOCK	VALLEY CREEK DISCHARGE ALTERNATIVE (DSTP)	P.O. Box 710, Northport, AL 35476	
PROJECT #:	DISCHARGE SYSTEM SCHEMATICS	(205)339-0218	



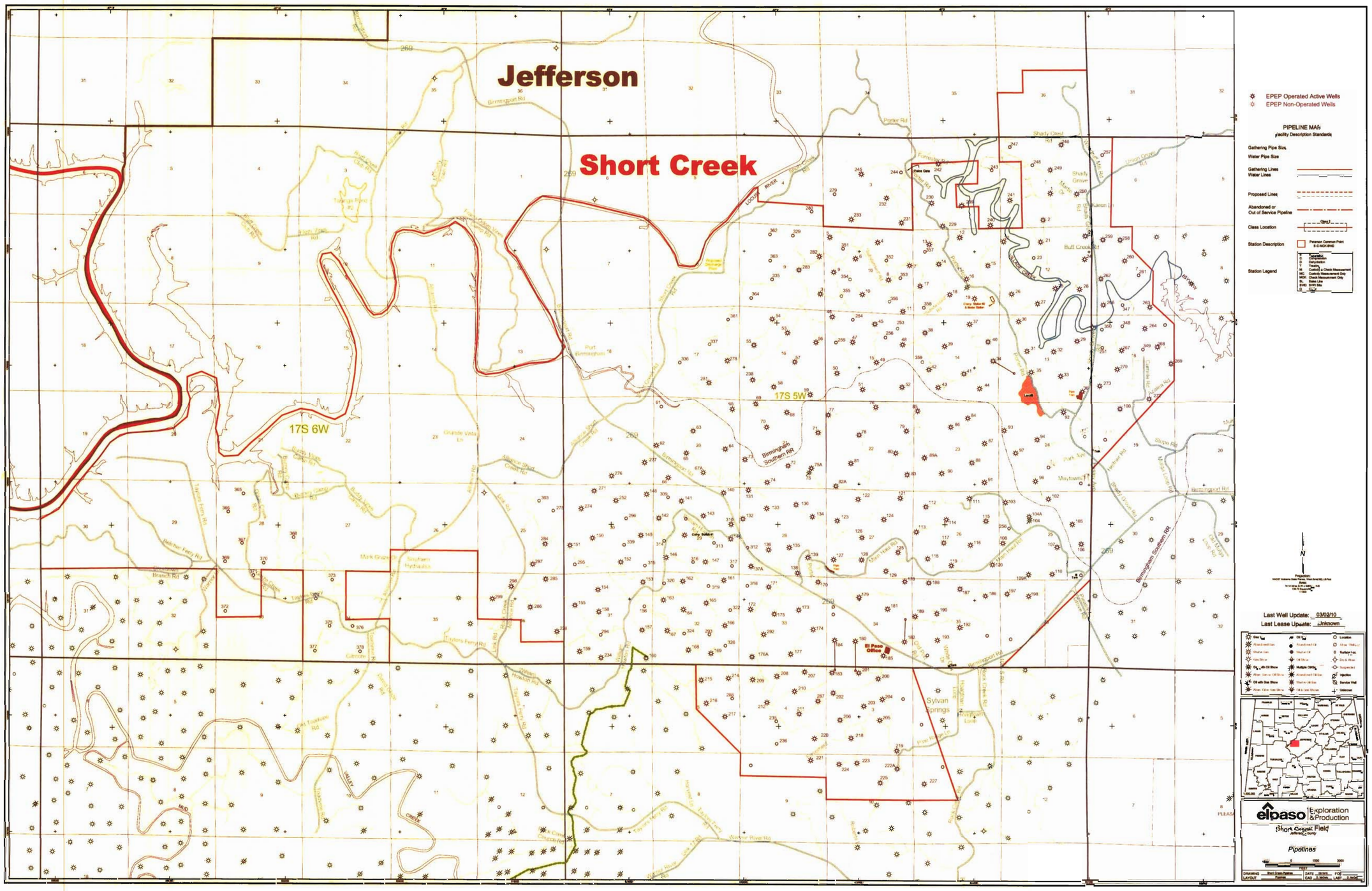
NOTE: PERMIT AREA FOLLOWS PIPELINE ROUTE TO DISCHARGE POINT

FUTURE DISCHARGE FACILITIES WOULD BE CONSTRUCTED WITHIN PERMIT AREA.

DATE:	9/1/04 11/1/10
SCALE:	GRAPHIC
DRAWN BY:	HADDOCK
JOB #:	

EL PASO PRODUCTION COMPANY
SHORT CREEK COALBED METHANE PROJECT
PROJECT MAP/PERMIT AREA

ENVIRONMENTAL TESTING & ENGINEERING
(A Division of Engineering Plus, Inc.)
P.O. Box 715 • Northport, Alabama • 35476
(205) 339-0216


Jefferson
Short Creek
17S 6W
17S 5W
EPEP Operated Active Wells
EPEP Non-Operated Wells
PIPELINE MAP
Facility Description Standards
Gathering Pipe Size
Water Pipe Size
Gathering Lines
Water Lines
Proposed Lines
Abandoned or
Out of Service Pipeline
Class Location
Station Description
Station Legend
Last Well Update: 03/02/10
Last Lease Update: Unknown
elpaso Exploration & Production
Short Creek Field
Jefferson County
Pipelines
El Paso Office
Sylvan Springs
Birmingham Southern RR